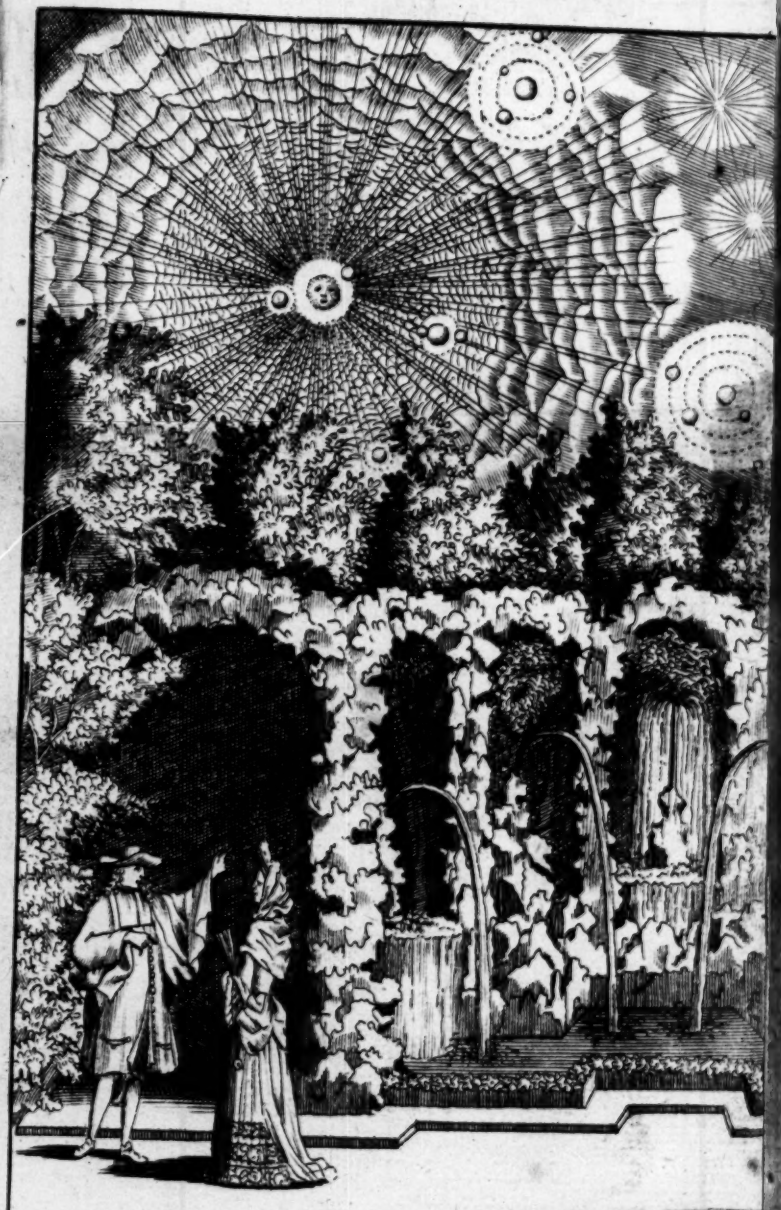
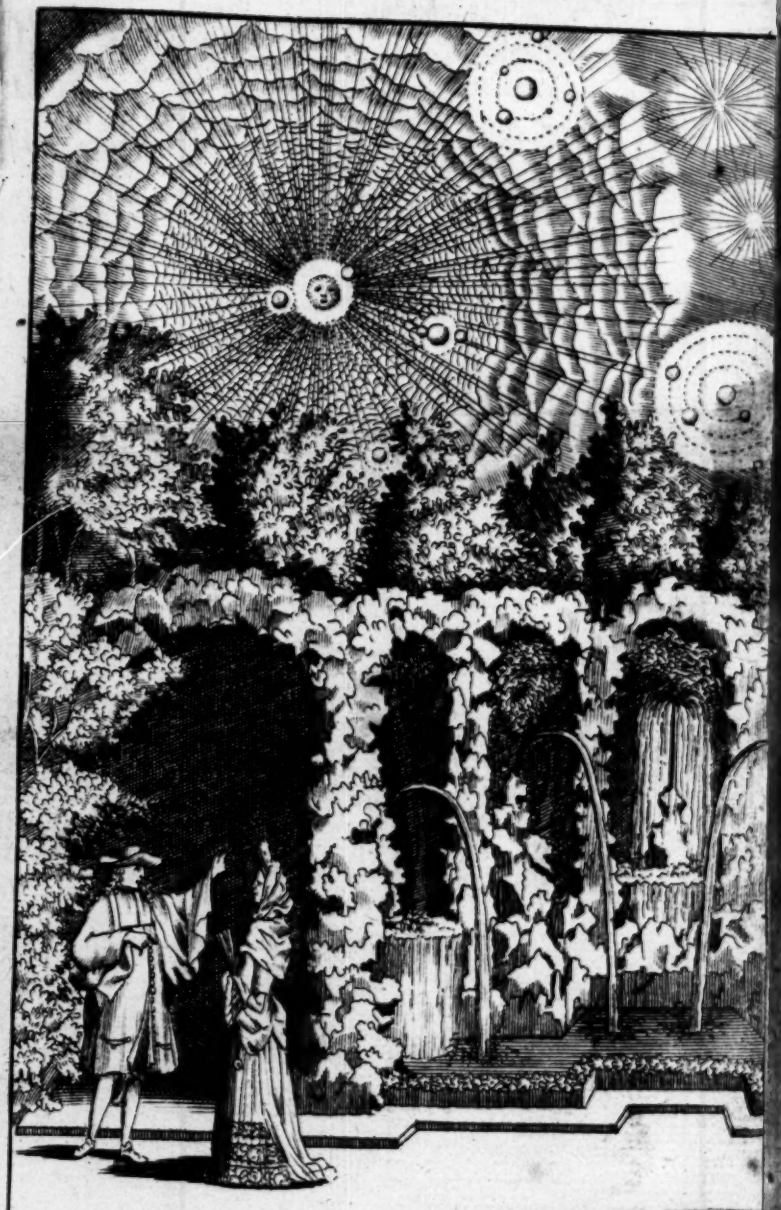


DISCOURSE OF THE PLURALITY OF WORLDS



DISCOURSE OF THE PLURALITY OF WORLDS

R V

# A PLURALITY OF Worlds.

Written in *French* by the Author of the *Dialogues of the Dead.*

Tranſlated into *Engliſh*

By Mr. *GLANVILL.*

*LONDON*,
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# THE PREFACE.

MY *Caſe is much like* Cicero's *when he undertook to write of Philoſophy, in Latine; there being then no Books upon that Subject, but what were written in Greek: When ſome told* Cicero, *that he would take pains to no purpoſe, becauſe ſuch as ſtudied Philoſophy, would make uſe of Greek Authors, and not read Latine Books, which treated of it but at ſecond hand; and others, who were no admirers of this Science, would never trouble their Heads with either Greek or Latine.* Cicero *reply'd, they were much miſtaken; for,* ſaid he, *the great eaſe People will find in reading Latin Books, will tempt thoſe to be Philoſophers who are none; and*

*they who already are Philoſophers, by reading Greek Books, will be very glad to ſee how Philoſophy is handled in Latine.*

Cicero *might with good reaſon anſwer as he did, becauſe the Excellency of his Genius, and the great Reputation he had acquired, warranted the ſucceſs of all he wrote: But in a deſign, not much unlike his, I am far from having thoſe grounds of Confidence which he had. My purpoſe is to diſcourſe of Philoſophy, but not in a Philoſophical manner; and to raiſe it to ſuch a pitch, that it ſhall not be too dry and inſipid a Subject to pleaſe Gentlemen; nor too mean and trifling to entertain Scholars. Should I be told,* (as Cicero *was*) *that ſuch a Diſcourſe as this, would not pleaſe the Learned, becauſe it can teach them nothing, nor the Illeterate, becauſe they will have no mind to learn; I will not anſwer as he did, It may be endeavouring to pleaſe every Body, I have pleas'd no Body; to keep the middle betwixt two Extreams is difficult; and I believe I ſhall never deſire to put my ſelf a ſecond time to the like trouble.*

*If*

# The Preface.

*If this Book have the luck to be read, I declare to those who have any knowledge of natural Philosophy, that I do not pretend to instruct, but only to divert them, by presenting to their view in a gay and pleasing Dress, that which they already know; but they to whom the Subject is new, may be both diverted and instructed: the first will act contrary to my intention, if they look for Profit, and the second if they seek for nothing but Pleasure.*

*I have chosen that part of Philosophy which is most like to excite Curiosity; for what can more concern us, than to know how this World which we inhabite, is made; and whether there be any other Worlds like it, which are also inhabited as this is? They who have any thoughts to lose, may throw them away upon such Subjects as this; but I suppose they who can spend their time better will not be at so vain and fruitless an expence.*

*In these Discourses, I have introduc'd a Woman, to be instructed in things of which she*

*ſhe never heard; and I have made uſe of this Fiction, to render the Book the more acceptable, and to give encouragement to Ladies, by the Example of one of their own Sex, who without any ſupernatural parts, or tincture of Learning, underſtands what is ſaid to her; and without any confuſion, rightly apprehends what* Vortex's *and other Worlds are: And why may not there be a Woman like this imaginary Counteſs? ſince her Conceptions are no other than ſuch as ſhe could not chuſe but have?*

*To penetrate into things either obſcure in themſelves, or but darkly expreſſed, requires deep Meditation, and earneſt application of the Mind; but here, nothing more is requiſite than to read, and to print an Idea of what is read, in the Fancy, which will certainly be clear enough. I ſhall deſire no more of the fair Ladies, than that they will read this Syſteme of Philoſophy, with the ſame application that they do a Romance or a Novel. 'Tis true that the Ideas of this Book are leſs familiar to moſt Ladies, than thoſe of Romances*

*mances are, but they are not more obſcure; for at moſt, twice or thrice thinking, will render 'em very perſpicuous.*

*I have not compos'd an aery Syſteme, which hath no foundation at all: I have made uſe of ſome true Philoſophical Arguments, and of as many as I thought neceſſary; but it falls out very luckily in this Subject, that the Phyſical Ideas are in themſelves very diverting; and as they convince and ſatisfie reaſon, ſo at the ſame time they preſent to the Imagination a Spectacle, which looks as if it were made on purpoſe to pleaſe it.*

*When I meet with any Fragments which are not of this kind, I put them into ſome pretty ſtrange dreſs;* Virgil *hath done the like in his* Georgicks, *when his Subject is very dry, he adorns it with pleaſant digreſſious:* Ovid *hath done the ſame in his* Art of Loving; *and tho' his Subject be of it ſelf very pleaſing, yet he thought it tedious to talk of nothing but Love. My Subject hath more need of digreſſions than*

*than his, yet I have made uſe of 'em very ſparingly, and of ſuch only, as the natural liberty of converſation allows; the greateſt part of 'em are in the beginning of the Book, becauſe the mind cannot at firſt be ſo well acquainted with the principal Ideas which are preſented to it; they are taken from the Subject it ſelf, or are as near to it as is poſſible.*

*I have fancy'd nothing concerning the Inhabitants of the many Worlds, which is wholly fabulous; I have ſaid all that can be reaſonably thought of them, and the Viſions which I have added, have ſome real foundation; what is true, and what is falſe are mingled together, but ſo as to be eaſily diſtinguiſhed: I will not undertake to juſtifie ſo fantaſtical and odd a Compoſition, that is the principal point of the Work, and for which I can give no very good reaſon.*

*There remains no more to be ſaid in this Preface; but to a ſort of People who perhaps will not be eaſily ſatisfied; not but that I have good reaſons to give 'em, but becauſe*

*becauſe the beſt that can be given, will not content 'em; they are thoſe ſcrupulous Perſons, who imagine, that the placing inhabitants any where, but upon the Earth, will prove dangerous to Religion: I know how exceſſively tender ſome are in Religious Matters, and therefore I am very unwilling to give any offence in what I publiſh to People, whoſe opinion is contrary to that I maintain: But Religion can receive no prejudice by my Syſteme, which fills an infinity of Worlds with Inhabitants, if a little errour of the Imagination be but rectifyed. When 'tis ſaid the Moon is Inhabited, ſome preſently fancy that there are ſuch Men there, as we are; and Church Men, without any more ado, think him an Atheiſt, who is of that opinion. None of* Adam's *Poſterity ever travel'd ſo far as the Moon, nor were any Colonies ever ſent thither; the Men then that are in the Moon, are not the Sons of* Adam: *And here again Theology would be puzled, if there ſhould be Men any where that never deſcended from him: To ſay no more, this is the great*

*difficulty*

*difficulty to which all others may be reduc'd, to clear it by a larger explanation, I muſt make uſe of Terms which deſerve greater reſpect, than to be put into a Pamphlet, ſo trivial, and ſo far from being ſerious as this is; but perhaps there is no need of anſwering the Objection, for it concerns no body but the Men in the Moon; and I never yet ſaid there are Men there; if any ask, what the Inhabitants there are, if they be not Men? all I can ſay is, that I never ſaw them; and 'tis not becauſe I have ſeen 'em, that I ſpeak of 'em: Let none now think that I ſay there are no Men in the Moon, purpoſely to avoid the Objection made againſt me; for it appears 'tis impoſſible there ſhould be any Men there, according to that Idea I have framed of that infinite diverſity and variety, which is to be obſerved in the works of Nature; This Idea runs through the whole Book, and cannot be contradicted by any Philoſopher: And to think there may be more Worlds than one, is neither againſt Reaſon, or Scripture. If God glorifyed himſelf*

*ſelf in making one World, the more Worlds be made, the greater muſt be his Glory: But I do not declare theſe Ideas to be Articles of my Faith; when I do, I hope I ſhall have the ſame Liberty as the reſt of my Neighbours.*

# A PLURALITY OF Worlds.

YOU would have me, Sir, give you an exact account, how I paſs'd my time in the Country, at the Counteſs of *D*———*s*, Are you ſenſible ſuch an exact Account will amount to a Volume? Nay (what is worſe,) a Volume of Philoſophy? I know you expect another kind of Entertainment, Dancing, Gaming, Hunting, *&c.* but you muſt take up with Vortex's, Planets, and New Worlds; theſe were the Subject of our Converſation. And by good luck you are a

Philoſopher, ſo that it will be no great diſappointment, nay, I fancy, you will be pleas'd, that I have brought over the Counteſs to our Party, we could not have gain'd a more conſiderable Perſon, for Youth and Beauty are ever ineſtimable: If Wiſdom would appear with ſucceſs to Mankind, Do you think ſhe would not do well to take upon her the Perſon of the Counteſs? And yet was her Company but half ſo agreeable, all the World would run mad after Wiſdom But tho' I tell you all the diſcourſe I had with the Lady, you muſt not expect Miracles from me. It is impoſſible without her Wit, to expreſs but what ſhe ſaid, in the ſame manner ſhe ſpake it: For my part, I think her very Learned, from the great diſpoſition ſhe hath to Learning. Is it a poring upon Books that makes a Man of underſtanding? I know many that have done nothing elſe, and yet I fancy are not one tittle the Wiſer: But perhaps you expect, before I enter upon my Subject, I ſhould deſcribe the Ladys Houſe, with all its Situation,

tion, many great Palaces have been turned inside outward upon far leſs occaſion: But I intend to ſave you and my ſelf that labour, let it ſuffice, that I tell you, I found no Company with the Counteſs, and I was not at all diſpleaſed with it; the two firſt days drain'd me of all the News I brought from *London*, what I now ſend you is the reſt of our Converſation, which I will divide into ſo many parts, as we were Evenings together.

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# The Firſt Evening.

WE went one Evening after Supper, to walk in the Park, the Air was extremely refreſhing, becauſe that day had been very hot; the Moon had been up about an hour, and as ſhe ſhone between the Trees, made an agreeble mixture of Light and Darkneſs; the Stars were in all their Glory, and not a Cloud appear'd on the Azare Sky; I was

muſing on this awful Proſpect, but who can think long of the Moon and Stars in the Company of a Pretty Woman! I am much miſtaken if that's a time for Contemplation: Well Madam, *ſaid I to the Counteſs*, is not the Night as pleaſant as the Day? The Day, *ſaid ſhe*, like a fair Beauty, is clear and dazling; but the Night, like a brown Beauty, more ſoft and moving. You are Generous Madam, *I replyed*, to prefer the Brown. You that have all the Charms that belong to the Fair: But is there any thing more Beautiful in Nature than the Day? The Heroines of Romances are generally fair, and that Beauty muſt be perfect, which hath all the advantages of imagination. Tell not me, *ſaid ſhe*, of perfect Beauty, nothing can be ſo that is not moving. But ſince you talk of Romances, why do Lovers in their Songs and Elegies addreſs themſelves to the Night? 'Tis the Night, Madam, *ſaid I*, that crowns their Joys, and therefore deſerves their thanks. But 'tis the Night, *ſaid ſhe*, that hears their Complaints, and

and how comes it to paſs, the day is ſo little truſted with their ſecrets? I confeſs, Madam, *ſaid* I, the night hath ſomewhat a more melacholy Air, than the day; we fancy the Stars march more ſilently than the Sun, and our thoughts wander with the more liberty, whilſt we think all the World at reſt but our ſelves: Beſides the day is more uniform, we ſee nothing but the Sun, and light in the Firmament; whilſt the night gives us variety of Objects, and ſhews us ten thouſand Stars, which inſpire us with as many pleaſant Ideas. What you ſay is true, *ſaid ſhe*, I love the Stars, there is ſomewhat charming in them, and I could almoſt be angry with the Sun for effacing 'em. I can never pardon him, *I cried*, for keeping all thoſe worlds from my ſight: What Worlds, *ſaid ſhe*, looking earneſtly upon me, what worlds do you mean?

I beg your pardon, Madam, *ſaid I*, you have put me upon my folly, and I begin to rave: what Folly, *ſaid ſhe*, I diſcover none? Alas, *ſaid I*, I am aſham'd,

I muſt own it, I have had a ſtrong fancy every Star is a World. I will not ſwear it is true, but muſt think ſo, becauſe it is ſo pleaſant to believe it; 'Tis a fancy come into my head, and is very diverting. If your folly be ſo diverting, *ſaid the Conntes*ſ, Pray make me ſenſible of it; provided the pleaſure be ſo great, I will belive of the Stars all you would have me. It is, *ſaid I*, a diverſion, Madam, I fear you will not reliſh, 'tis not like one of *Moliere*'s Plays, 'tis a Pleaſure rather of the fancy than of the Judgment. I hope, *replyed ſhe*, you do not think me incapable of it; teach me your Stars, I will ſhew you the contrary. No, No, *I replyed*, it ſhall never be ſaid I was talking Philoſophy at ten of the Clock at Night, to the moſt amiable Creature in the World, find your Philoſophers ſomewhere elſe.

But in vain I excuſed my ſelf, who could reſiſt ſo many Charms? I was forc'd to yield, and yet I knew not where to begin; for to a Perſon who underſtood nothing of Natural Philoſophy

phy you muſt go a great way about to prove that the Earth may be a Planet, the Planets ſo many Earths, and all the Stars worlds; however to give her a general Notion of Philoſophy, I at laſt reſolved on this method. All Philoſophy, *ſaid I*, Madam, is founded upon two things, either that we are too ſhort ſighted, or that we are too curious; for if our eyes were better than they are, we ſhould ſoon ſee whether the Stars were worlds or not; and if on the other ſide we were leſs curious, we ſhould not care whether the Stars are Worlds or not, which I think is much to the ſame purpoſe. But the Buſineſs is we have a mind to know more than we ſee: And again, if we could diſcern well what we do ſee, it would be ſo much known to us: But we ſee things quite otherwiſe than they are. So that your true Philoſopher will not believe what he doth ſee, and is always conjecturing at what he doth not, which is a Life I think not much to be envy'd: Upon this I fancy to my ſelf, that Nature very much reſembleth an

Opera, where you ſtand, you do not ſee the Stage as really it is; but it is placed with advantage, and all the Wheels and Movements are hid, to make the Repreſentation the more agreeable: Nor do you trouble your ſelf how, or by what means the Machines are moved, tho certainly an Engineer in the Pit is affected with what doth not touch you; he is pleas'd with the motion, and is demonſtrating to himſelf on what it depends, and how it comes to paſs. This Engineer then is like a Philoſopher, tho' the difficulty is greater on the Philoſophers part, the Machines of the Theatre being nothing ſo curious as thoſe of Nature, which diſpoſeth her Wheels and Springs ſo out of ſight, that we have been long a gueſſing at the movement of the Univerſe. Suppoſe then the Sages at an Opera, the *Pythagoras*'s, the *Plato*'s, the *Ariſtotle*'s, and all the Wiſe Men who have made ſuch a noiſe in the World, for theſe many Ages: We will ſuppoſe 'em at the Repreſentation of *Phaeton*, where they ſee the aſpiring Youth lifted up by the Winds, but do not diſcover the Wires

Wires by which he mounts, nor know they any thing of what is done behind the Scenes. Would you have all theſe Philoſophers own themſelves to be ſtark Fools, and confeſs ingenuouſly they know not how it comes to paſs: No, no, they are not called Wiſe Men for nothing; tho', let me tell you, moſt of their Wiſdom depends upon the ignorance of their Neighbours. Every man preſently gives his opinion, and how improbable ſoever, there are fools enough of all ſorts to believe 'em: One tells you *Phaeton* is drawn up by a hidden Magnetick Vertue, no matter where it lies; and perhaps the grave Gentleman will take pet, if you ask him the Queſtion. Another ſays, *Phaeton* is compoſed of certain Numbers that make him mount; and after all the Philoſopher knows no more of thoſe numbers than a ſucking Child of *Algebra*: A third tells you, *Phaeton* hath a ſecret love for the top of the Theatre, and like a true lover cannot be at reſt out of his Miſtreſſes Company with an hundred ſuch extravagant fancies

cies, that a Man muſt conclude the Old Sages were very good Banterers: But now comes Monſieur *Deſcartes*, with ſome of the Moderns, and they tell you *Phaeton* aſcends becauſe a greater weight than he deſcends; ſo that now we do not believe a Body can move without it is puſhed and forced by another body, and as it were drawn by Cords, ſo that nothing can riſe or fall but by the means of a Counterpoiſe; he then that will ſee Nature really as ſhe is, muſt ſtand behind the Scenes at the Opera. I perceive, *ſaid the Counteſs*, Philoſophy is now become very Mechanical. So Mechanical, *ſaid I*, that I fear we ſhall quickly be aſhamed of it; they will have the World to be in great, what a Watch is in little; which is very regular and depends only upon the juſt diſpoſing of the ſeveral parts of the movement. But pray tell me, Madam, had you not formerly a more ſublime Idea of the Univerſe? Do you not think you did then honour it more than it deſerved? For moſt have the leſs eſteem of it ſince

they

they have pretended to know it. I am not of their opinion, *ſaid ſhe*, I value it the more ſince I know it reſembles a Watch, and the whole order of Nature the more plain and eaſie it is, to me it appears the more admirable,

I know not, ſaid I, who hath inſpir'd you with theſe ſolid Notions, but I am certain there are few that have them beſides your ſelf, People generally admire what they do not comprehend, they have a Veneration for Obſcurity, and look upon Nature while they do not underſtand her, as a kind of Magick, and deſpiſe her below Legerdemain, when once they are acquainted with her; but I find you, Madam, ſo much better diſpoſed, that I have nothing to do but to draw the Curtain, and ſhew you the World. That then which appears fartheſt from the Earth, (where we reſide) is called the Heavens, that Azure Firmament where the Stars are faſtned like ſo many Nails, and are call'd fix'd, becauſe they ſeem to have no other Motion

tion than that of their Heaven, which carries them with it ſelf from Eaſt to Weſt. Between the Earth and this great Vault (as I may call it) hang at different heights the Sun, and the Moon, with the other Stars, *Mercury*, *Venus*, *Mars*, *Jupiter* and *Saturn*, which we call the Planets; theſe Planets, not being faſtned to the ſame Heaven, and having very unequal Motions, have divers Aſpects and Poſitions. Whereas the fix'd Stars in reſpect to one another, are always in the ſame Scituation for Example, *Charle's* Wain which is compos'd of thoſe ſeven Stars, hath been and ever will be as it now is, tho' the Moon is ſometimes nearer to the Sun, and ſometimes farther from it, and ſo it is with the reſt of the Planets. Thus things appeared to the Old *Caldæan* Shepherds, whoſe great leiſure did produce theſe firſt Obſervations, which have ſince been the foundation of Aſtronomy, for Aſtronomy had its Birth in *Caldæa*, as Geometry was born in *Egypt*, where the Inun-

Inundation of the *Nile* confounding the bounds of their Fields, was an occaſion of their inventing exacter Meaſures to diſtinguiſh every ones Land from that of his Neighbour. So that Aſtronomy was the Daughter of Idleneſs, Geometry the Daughter of Intereſt; and if we did but examine Poetry, we ſhould certainly find her the Daughter of Love.

I am glad, ſaid the Lady, I have learnt the Genealogy of the Sciences, and am convinced I muſt ſtick to Aſtronomy, my Soul is not mercenary enough for Geometry, nor is it tender enough for Poetry; but I have as much time to ſpare as Aſtronomy requires, beſide, we are now in the Country, and lead a kind of Paſtoral Life, all which ſuits beſt with Aſtronomy. Do not deceive your ſelf, Madam, *ſaid I*, 'tis not a true Shepherds life to talk of the Stars and Planets: See if they paſs their time ſo in *Aſtræa*. That ſort of Shepherds Craft, *replyed ſhe*, is too dangerous for me to learn: I love the honeſt

honeſt *Caldæans*, and you muſt teach me their Rules, if you would have me improve in their Science. But let us proceed, When they had ranked the Heavens in that manner you tell me, pray, what is the next Queſtion? The next, *ſaid I*, is the diſpoſing the ſeveral parts of the Univerſe, which the Learned call, making a Syſteme; but before I expound the firſt Syſteme, I would have you obſerve, we are all naturally like that Mad man at *Athens*, who fancy'd all the Ships were his, that came into the Port *Pyræum*: Nor is our Folly leſs extravagant, we believe all things in Nature deſign'd for our uſe; and do but ask a Philoſopher, to what purpoſe there is that prodigious company of fixed Stars, when a far leſs number would perform the ſervice they do us? He anſwers coldly, they were made to pleaſe our Sight. Upon this Principle they imagined the Earth reſted in the Centre of the Univerſe, while all the Celeſtial Bodies (which were made for it) took the pains

pains to turn round to give light to it. They placed the Moon above the Earth, *Mercury* above the Moon, after *Venus*, the Sun, *Mars*, *Jupiter*, *Saturn*, above all theſe they ſet the Heaven of fixed Stars, the Earth was juſt in the middle of thoſe Circles which contain the Planets, and the greater the Circles were, they were the farther diſtant from the Earth, and by conſequence the fartheſt Planets took up the moſt time in finiſhing their courſe, which in effect is true: But why, *ſaid the Counteſs.* interrupting me, do you diſlike this Syſteme: It ſeems to me very Clear and Intelligible. However, Madam, *ſaid I*, I will make it plainer; for ſhould I give it you as it came from *Ptolomey* its Author, or ſome other who have ſince ſtudied it, I ſhould fright you, I fancy, inſtead of diverting you. Since the Motions of the Planets are not ſo regular, but that ſometimes they go faſter, ſometimes ſlower, ſometimes are nearer the Earth, and ſometimes farther from it; the Ancients did

did invent I do not know how many Orbs or Circles involved one within another, which they thought would ſalve all Objections; this confuſion of Circles was ſo great, that at that time when they knew no better, a certain King of *Arragon*, a great Mathematician, but not much troubled with Religion, ſaid, *That had God conſulted him when he made the World, he would have told him how to have framed it better.* Tht fancy was very Atheiſtical, and no doubt the Inſtructions he would have given the Almighty, was the ſuppreſſing thoſe Circles with which they had cloged the Celeſtial Motions, and the taking away two or three ſuperfluous Heavens which they placed above the fixed Stars; for theſe Philoſophers to explain the Motion of the Celeſtial Bodies, had above the uppermoſt Heaven (which we ſee,) found another of Cryſtal, to influence and give Motion to the inferiour Heavens: and wherever they heard of another Motion, they preſently clapp'd up a Cryſtal Heaven which coſt 'em nothing.

nothing. But why muſt their Heaven be of Cryſtal, *ſaid the Counteſs*, would nothing elſe ſerve as well? No, no, *I replyed*, nothing ſo well; for the Light was to come thro' them, and yet they were to be ſolid. *Ariſtotle* would have it ſo, he had found ſolidity to be one of their Excellencies, and when he had once ſaid it, no body would be ſo rude as to queſtion it. But it ſeems there were Comets much higher than the Philoſophers expected, which as they paſs'd along brake the Cryſtal Heavens, and confounded the Univerſe. But to make the beſt of a bad Market, they preſently melt down their broken Glaſs, and to *Ariſtotle*'s Confuſion, made the Heavens fluid; and by the obſervations of theſe latter Ages it is now out of doubt, that *Venus* and *Mercury* turn round the Sun, and not round the Earth, according to the Antient Syſteme, which is now every where exploded, and all the *Ipſe Dixits* not worth a ruſh. But that which I am going to lay down, will ſalve all, and is ſo clear, that the King of *Arragon* him-

ſelf may ſpare his Advice. Methinks, *ſaith the Counteſs*, your Philoſophy is a kind of Out-cry, where he that offers to do the work cheapeſt, carries it from all the reſt. 'Tis very true, *ſaid* I, Nature is a great Huſwife, ſhe always makes uſe of what coſts leaſt, let the difference be never ſo inconſiderable; and yet this frugality is accompany'd with an extraordinary magnificence, which ſhines thro' all her works; that is, ſhe is magnificent in the deſign, but frugal in the Execution; and what can be more praiſe worthy, than a great deſign accompliſh'd with a little Expence? But in our Ideas we turn things topſie-turvy, we place our thrift in the deſign, and are at ten times more charge in Workmanſhip than it requires, which is very ridiculous: Imitate Nature then, *ſaith ſhe*, in your Syſteme, and give me as little trouble as you can to comprehend you. Fear it not Madam, *ſaid I*, we have done with our impertinencies; Imagine then a *German* call'd *Copernicus* confounding every thing tearing in pieces the beloved Circles of Antiquity

Antiquity, and ſhattering their Cryſtal Heavens like ſo many glaſs Windows, ſeiz'd with the noble Rage of Aſtronomy he ſnatcheth up the Earth from the Centre of the Univerſe, ſends her packing, and placeth the Sun in the Centre to which it did more juſtly belong, the Planets no longer turn round the Earth, and do not incloſe it in the Circles they deſcribe; if they give us light, it is but by chance, and as they meet us in their way. All now turns round the Sun, the Earth herſelf goes round the Sun, and *Copernicus* to puniſh the Earth for her former Lazyneſs, makes her contribute all he can to the motion of the Planets and Heavens, and now ſtripp'd of all the heavenly Equipage with which ſhe was ſo glorioufly attended, ſhe hath nothing left her but the Moon which ſtill turns round about her: Fair and ſoftly, *ſaith the Counteſs*, I fancy you your ſelf are ſeiz'd with the Noble Fury of Aſtronomy; a little leſs rapture, and I ſhall underſtand you the better. The Sun you ſay is in the Centre of the Univerſe, and

is immoveable; what follows next it is *Mercury*, *ſaid I*, he turns round the Sun ſo that the Sun is the Centre of the Circle wherein *Mercury* moves; above *Mercury* is *Venus*, who turns alſo round the Sun; after comes the Earth, which being placed higher than *Mercury* and *Venus*, makes a greater circle round the Sun than either of them; at laſt come *Mars*, *Jupiter*, *Saturn*, in the ſame order I name 'em, ſo that *Saturn* hath the greateſt circle round the Sun, which is the reaſon he is a longer time in making his Revolution than any of the other Planets. And the Moon, you have forgot her, *ſaid ſhe:* We ſhall quickly find her again, *ſaid I*, the Moon turns round the Earth, and doth not leave her, but as the Earth advanceth in the Circle, which ſhe deſcribes about the Sun, and if the Moon turns round the Sun, it is becauſe ſhe will not quit the Earth; I underſtand you, *ſaid ſhe*, and I love the Moon for ſtaying with us when all the other Planets do abandon us; nay I fear your German would have willingly taken her away too,

too if he could, for in all his proceedings, I find he had a great ſpight to the Earth. 'Twas well done of him, ſaid I, to abate the Vanity of Mankind, who had taken up the beſt place in the Univerſe, and it pleaſeth me to ſee the Earth in the crouds of the Planets. Sure, *ſaid ſhe*, you do not think their Vanity extends it ſelf as far as Aſtronomy! Do you believe you have humbled me, in telling me the Earth goes round the Sun? For my part I do not think my ſelf at all the worſe for't. I confeſs, *ſaid I*, Madam, I believe a fair Lady would be much more concern'd for her place at a Ball, than for her rank in the Univerſe; and the Precedence of two Planets will not make half ſuch a noiſe in the World, as that of two Ambaſſadours; however the ſame inclination which reigns at a Ceremony, governs in a Syſteme, and if you love the uppermoſt place in the one, the Philoſopher deſires the Centre in the other; he flatters himſelf that all things were made for him, and inſenſibly believes a matter of pure ſpeculation to be a point of Inte-

reſt. This is a Calumny, *ſaid ſhe*, you have invented againſt Mankind; why did they receive this Syſteme if it was ſo abaſing? I know not, *ſaid I*, but I am ſure *Copernicus* himſelf diſtruſted the ſucceſs of his opinion, he was a long time before he would venture to publiſh it, nor had he done it then without the importunity of his Friends. But do you know what became of him? the very day they brought him the firſt Proof of his Book, he dy'd; he foreſaw he ſhould never be able to clear all the Contradictions, and very wiſely ſlipt out of the way. I would be juſt to all the World, *ſaid the Counteſs*; but 'tis hard to fancy we move and yet ſee we do not change our place; we find our ſelves in the Morning where we lay down at Night: Perhaps you will tell me the whole Earth moves--Yes certainly, *ſaid I*, it is the ſame caſe as if you fell aſleep in a Boat upon the River, when you awake you find your ſelf in the ſame place, and the ſame ſituation in reſpect of all the parts of the Boat. 'Tis true, *ſhe replyed*, but here's a great difference

rence, when I awake I find another ſhoar and that ſhows me, my Boat hath changed place. But 'tis not the ſame with the Earth, I find all things as I left 'em. No no, *ſaid I*, there is another ſhoar too; You know that beyond the Circles of the Planets are fixed Stars, there is our ſhoar I am upon the Earth, and the Earth makes a great Circle round the Sun, I look for the Centre of the Circle and ſee the Sun there, I then direct my ſight beyond the Sun in a right Line, and ſhould certainly diſcover the fixed Stars which anſwer to the Sun, but that the light of the Sun effaceth 'em: But at Night I eaſily perceive the Stars which correſponded with him in the day, which is exactly the ſame thing; if the Earth did not change its place in the Circle where it is, I ſhould ſee the Sun always againſt the ſame fixed Stars, but when the Earth doth change its place, the Sun muſt anſwer to other Stars and there again is your Shoar which is always changing. And ſeeing the Earth makes her Circle in a year, I ſee the Sun likewiſe in the

ſpace of a year anſwer ſucceſſively to the whole Circle of the fixed Stars, which Circle is called the Zodiack: I will draw you the Figure of it, if you pleaſe, on the Sand? 'Tis no matter, *ſaid ſhe*, I can do well enough without it; beſide, it will give an Air of Learning to my Park which I would not have in it: For I have heard of a certain Philoſopher, who being Shipwrack'd, and caſt upon an unknown Iſland, ſeeing ſeveral Mathematical Figures traced on the Sea Shore, cry'd out to thoſe that followed him, Courage, Courage, my Companions, the Iſle is inhabited, behold the footſteps of Men: But you may ſpare your Figures, ſuch Footſteps are not decent here.

I confeſs, *ſaid* I, Madam, the footſteps of Lovers would better become this Place; that is, your Name and Cypher grav'd on the Trees by your Adorers. Tell not me, *ſaid ſhe*, of Lovers and Adorers, I am for my beloved Sun and Planets. But how comes it to paſs that the Sun as to the fixed

fixed Stars compleats his courſe but in a year, and yet goes over our Heads every day? Did you never, *I replyed*, obſerve a Bowl on a Bowling Green? It runs towards the Block, and at the ſame time turns very often round it ſelf ſo that the parts which were above are below, and thoſe which were below are above; juſt ſo it is with the Earth, at the ſame time that ſhe advanceth on the Circle which in a years ſpace ſhe makes round the Sun, in twenty four hours ſhe turns round her ſelf; ſo that in twenty four hours every part of the Earth looſeth the Sun, and recovers him again, and as it turns towards the Sun, it ſeems to riſe, and as it turns from him; it ſeems to fall. It is very pleaſant, *ſaid ſhe*, that the Earth muſt take all upon her ſelf, and the Sun do nothing. And when the Moon, the other Planets, and the fixed Stars ſeem to go over our heads every twenty four hours, you'll ſay that too is only Fancy? Pure Fancy, *ſaid I*, which proceeds from the ſame cauſe, for the Planets

nets compleat their courſes round the Sun at unequal times, according to their unequal diſtances, and that which we ſee to day anſwer to a certain Point in the Zodiack or Circle of the fixed Stars, to morrow we ſee anſwer to another point, becauſe it is advanced on its own Circle as well as we are advanced upon ours. We move, and the Planets move too, which muſt make a great alteration; ſo that what ſeems irregular in the Planets, proceeds only from our motion, when in truth they are all very regular: I will ſuppoſe 'em ſo, *ſaid the Counteſs*, but I would not have their regularity put the Earth to ſo great trouble; methinks you exact too much activity from ſo ponderous a Maſs. But, *ſaid* I, had you rather that the Sun and all the Stars, which are vaſt great Bodies, ſhould in twenty four hours travel ſuch an infinity of Miles, and make ſo prodigious a *Tour* as they needs muſt, if the Earth did not turn round it ſelf every twenty four hours? Oh, *ſaid ſhe*, the Sun and the

the Stars are all Fire, their Motion is not very difficult; but the Earth, I fancy, is a little unweildy: That ſignifies nothing, *I replyed*, for what do you think of a firſt rate Ship, which carries near an hundred Guns, and a thouſand Men, beſides her Proviſions and other Furniture? you ſee one puff of Wind makes it ſail on the Water, becauſe the Water is liquid, and being eaſily ſeparated doth very little reſiſt the motion of of the Ship: So the Earth tho' never ſo maſſive is as eaſily born up by the Celeſtial Matter, which is a thouſand times more fluid than the Water, and fills all that great ſpace where the Planets float; for where would you the Earth ſhould be faſtned to reſiſt the motion of the Celeſtial Matter, and not be driven by it? You may as well fancy a little block of Wood can withſtand the current of a River. But pray, *ſaid ſhe*, how can the Earth with all its weight be born up by your Celeſtial Matter, which muſt be very light, becauſe it is ſo fluid? It doth not argue,

*ſaid*

*ſaid I*, that what is moſt fluid is moſt light: for what think you of the great Veſſel I mentioned but now, which with all its burthen is yet lighter than the Water it floats on? I will have nothing to do with that great Veſſel, *ſaid ſhe*, and I begin to apprehend my ſelf in ſome danger on ſuch a whirlegig as you have made of the Earth: There is no danger, *I replyed*; but Madam, if you are afraid, we will have the Earth ſupported by four Elephants, as the *Indians* believe it. Hey day, *cried ſhe*, here's another Syſteme; however I love thoſe People for taking care of themſelves, they have a good Foundation to truſt to, while you *Copernicians* are a little too venturous with the Celeſtial Matter; and yet I fancy if the *Indians* thought the Earth in the leaſt danger of ſinking, they would double their Number of Elephants. They do well, *ſaid I*, laughing at her fancy, who would ſleep in Fear? and if you have occaſion for 'em to night, we will put as many as you

you pleaſe in our Syſteme, we can take 'em away again by degrees as you grow better confirm'd. I do not think 'em very neceſſary, *ſaid ſhe*, I have courage enough to turn. You ſhall turn with pleaſure, Madam, *ſaid I*, and ſhall find delightful Ideas in this Syſteme. For Example, ſometimes I fancy my ſelf ſuſpended in the Air, without any motion, while the Earth turns round me in twenty four hours; I ſee I know not how many different Faces paſs under me, ſome white, ſome black and ſome tauny; ſometimes I ſee Hats, and ſometimes Turbants, now Heads with Hair, and then ſhav'd Heads; here I ſee Cities with Steeples, others with Spires and Creſcents, others with Towers of Purcelain, and anon great Countreys with nothing but Cottages; here I ſee vaſt Oceans, and there moſt horrible Deſarts; in ſhort I diſcover the infinite variety which is upon the ſurface of the Earth. I confeſs, *ſaid ſhe*, twenty four Hours would thus be very well beſtowed, ſo that in the ſame place where

where we are now, I do not mean in the Park, but we will ſuppoſe our ſelves in the Air, other People continually paſs by who takeup our place, and at the end of twenty four hours we return to it again.

*Copernicus* himſelf, *ſaid I*, could not have comprehended it better: Firſt then we ſee ſome of our Neighbours paſſing by us, up to the Ears in Politicks, yet ſetling their Nation no better than we do the World in the Moon; then follows a great Sea, perhaps a Fleet of Ships, perhaps a Mackrel Boat, no matter whether; then come ſome of the *Iroquois* going to eat a Priſoner for their Breakfaſt, who ſeems as little concern'd as his Devourers: After appear the Women of the Land of *Jeſſo*, who ſpend all their time in dreſſing their Huſbands Dinners and Suppers, and painting their Lips and Eye-brows blue, only to pleaſe the greateſt Villains in the World: Then the fair *Circaſſins*, who are very free of their favours, and grant all to the firſt Comer, except a little

little they reſerve for their Husbands; then the *Tartars* going to ſteal Concubines for the *Turks* and *Perſians*; and at laſt our own dear Countrymen, it may be in ſome points as ridiculous as the beſt of 'em. It is very pleaſant, *ſaid the Counteſs*, but to imagine what you tell me, tho if I was above, and ſaw all this, I would have the Liberty to haſten or retard the motion of the Earth according as the Objects pleas'd me more or leſs, and I aſſure you I ſhould quickly ſend packing the *Politions* and *Mancaters*, but ſhould have a great curioſity for the fair *Circaſſians*, for methinks they have a cuſtom very particular. They are ſo extreamly Beautiful, *ſaid I*, that their Husbands have enough and to ſpare to a Stranger. I fear then, ſaid ſhe, the Women of our Country are very ugly, in reſpect of thoſe fair Ladies, for the Husbands part with nothing here, but keep all to themſelves. 'Tis becauſe they make more uſe, *I replyed*, of——Hold your peace *ſaid ſhe*, and no more of your Fooleries

I have a difficulty to clear, and you muſt be ſerious. As the Earth moves, the Air changeth every moment, ſo we breath the Air of another Country: Not at all, *I replyed*, for the Air which encompaſſeth the Earth, doth not extend above a certain height, perhaps 20 leagues it follows us and turns with us: Have you not ſeen the work of a Silk-Worm, the Shells which thoſe little Animals impriſon themſelves in, and weave with ſo much Art; they are made of a Silk very cloſe, but are covered with a Down very ſlack and ſoft: So the Earth which is ſolid, is covered from the ſurface 20 Leagues upwards with a kind of Down, which is the Air, and all the Shell of the Silk-Worm turns at the ſame time: Beyond the Air is the Celeſtial Matter, incomparably more pure and ſubtle, and much more agitated than the Air: You r compariſon, ſaid ſhe, is ſomewhat mean and yet what wonders are wrought, what Wars, what Changes in this little ſhell? 'Tis true, *I replyed*, but Nature takes no notice of ſuch little particular Motions

Motions, but drives us along with the general motion, as if she were at Bouls. Methinks, *said she*, 'tis very ridiculous to be upon a thing that turns, and yet not be well assured that it doth turn; and to tell you the truth, I begin to distrust the reasons you give, why we should not be sensible of the Motion of the Earth; for is it possible there should not some little mark be left, by which we might perceive it?

All Motions, *said I*, the more common and natural they are, are the less perceptible, and this holds true even in Morality; the motion of self Love is so natural to us, that for the most part we are not sensible of it, and we believe we act by other Principles: You are Moralizing, *said she*, to a question of Natural Philosophy: But 'tis enough for the first time, let us now go home, and meet here again to morrow; you with your Systemes, and I with my ignorance.

In returning back to the Castle, that I might say all I could on the Subject, I told her of a third Systeme, invented by

*Tycho Brahe*, who had fixed the Earth in the Centre of the World, turned the Sun round the Earth, and the reſt of the Planets round the Sun; for ſince the new diſcoveries, there was no way left to have the Planets turn rouud the Earth. But the Counteſs who had a quick apprehenſion, ſaid, ſhe thought it was too affected, among ſo many great Bodies, to exempt the Earth only from turning round the Sun; that it was improper to make the Sun turn round the Earth, when all the Planets turn round the Sun; and that tho' this Syſteme was to prove the immobility of the Earth, yet ſhe thought it very improbable: So we reſolv'd to ſtick to *Copernicus*, whoſe opinion we thought moſt Uniform, Probable and Diverting.

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# The Second Evening.

IN the Morning, I ſent to the Counteſs's Apartment, to know how ſhe had reſted, and whether the Motion of

of the Earth had not diſturbed her? ſhe anſwered, ſhe began to be accuſtomed to it, and that ſhe had ſlept as well as *Copernicus* himſelf: Soon after there came ſome Neighbours to dine with her, but they went away in the Evening; ſo that after Supper we walk'd again into the Park, and immediately fell upon our Syſtemes. She ſo well conceiv'd what I told her the Night before, that ſhe deſired I would proceed without any repitition. Well, Madam, *ſaid I*, Since the Sun, which is now immoveable, hath left off being a Planet; and the Earth which turns round him is now become one, you will not be ſurprized when you hear that the Moon is an Earth too, and that ſhe is inhabited as ours is, I confeſs, *ſaid ſhe*, I have often heard talk of the World in the Moon, but I always looked upon it as Viſionary and meer Fancy. And it may be ſo ſtill, *ſaid I*, I am in this caſe as People in a Civil War, where the uncertainty of what may happen makes 'em hold intelligence with the oppoſite

Party; For tho' I verily believe the Moon is inhabited, I live civilly with thoſe who do not believe it; and I am (as ſome honeſt Gentlemen in point of Religion) ſtill ready to embrace the prevailing opinion, but till the Unbelievers have a more conſiderable Advantage, I am for the People in the Moon.

Suppoſe there had never been any Communication between *London* and *Greenwich*, and a Cockney who was never beyond the Walls of *London*, ſaw *Greenwich* from the top of a Pyramid; you ask him if he believes *Greenwich* is Inhabited as *London* is? He preſently anſwers, No; for *ſaith he*, I ſee People at *London*, but none at *Greenwich*; nor did I ever hear of any there: 'Tis true, you tell him, that from the Pyramid he cannot perceive any Inhabitants at *Greenwich*, becauſe of the diſtance; but all that he doth diſcover of *Greenwich* very much reſembleth what he ſees at *London*, the Steeples, Houſes, Walls; ſo that it may very well be Inhabited as *London*

is;

is; all this ſignifies nothing, my Cockney ſtill perſiſts *Greenwich* is not inhabited, becauſe he ſees no body there. The Moon is our *Greenwich*, and every one of us as meer Cockneys as he that never was out of the ſound of Bow-Bell. You are too ſevere, *ſaid ſhe*, upon your fellow Citizens; we are not all ſure ſo ſilly as your Cockney; ſince *Greenwich* is juſt as *London* is, he is a Fool if he doth not think it inhabited: But the Moon is not at all like the Earth. Have a care of what you ſay, *I replyed*, for if the Moon reſembleth the Earth, you are under a neceſſity to believe it inhabited. If it be ſo, *ſaid ſhe*, I own I cannot be diſpens'd from believing it, and you ſeem ſo confident of it, that I fear I muſt, whether I will or no: 'Tis true, the two Motions of the Earth, (which I could never Imagine till now) do a little ſtagger me as to all the reſt, But yet how is it poſſible the Earth ſhould enlighten as the Moon doth, without which they cannot be alike? If that be all, *ſaid I*, the difference is

not great, for 'tis the Sun which is the ſole Fountain of Light; that Quality proceeds only from him, and if the Planets give Light to us, it is becauſe they firſt receive it from the Sun; the Sun ſends Light to the Moon, and ſhe reflects it back on the Earth; the Earth in the ſame manner receives Light from the Sun, and ſends it to the Moon; for the Diſtance is the ſame between the Earth and the Moon, as between the Moon and the Earth. But is the Earth *ſaid the Counteſs*, as fit to ſend back the Light of the Sun as the Moon is? You are altogether for the Moon, *ſaid I*, ſhe is much obliged to you; but you muſt know that Light is made up of certain little Balls, which rebound from what is ſolid, but paſs through what admits of an entrance in a right Line, as Air or Glaſs: So that, that which makes the Moon enlighten us, is that ſhe is a Firm and ſolid Body, from which the little Balls rebound; and we muſt deny our Senſes, if we will not allow the Earth the ſame Solidity; in ſhort, the difference

difference is how we are ſeated, for the Moon being at ſo vaſt a diſtance from us, we can only diſcover her to be a Body of Light, and do not perceive that ſhe is a great Maſs, altogether like the Earth: Whereas on the contrary, becauſe we are ſo near the Earth, we know her to be a great Maſs, but do not diſcover her to be a Body of Light, for want of the due diſtance: It is juſt ſo with us all, *ſaid the Counteſs*, we are dazled with the Quality and Fortune of thoſe who are above us, when, do but look to the Bottom and we are all alike.

Very true, *ſaid* I, we would judge of all things, but ſtill ſtand in the wrong place; we are too near to judge of our ſelves, and too far off to know others: So that the true way to ſee things as they are is to be between the Moon and the Earth, to be purely a Spectator of this World, and not an Inhabitant. I ſhall never be ſatisfy'd, *ſaid ſhe*, for the Injuſtice we do the Earth, and the two favourable opinion we have

of the Moon, till you aſſure me that the People in the Moon are as little acquainted with their Advantages, as we are with ours, and that they take our Earth for a Planet, without knowing theirs is one too. Do not doubt it, *ſaid I*, we appear to them to perform very regularly our function of a Planet: 'Tis true, they do not ſee us make a Circle round them, but that is no great matter. That half of the Moon which was turn'd towards us at the beginning of the World, hath been turn'd towards us ever ſince; the Eyes, Mouth and Face which we have fancyed of the Spots in her, are ſtill the ſame, and if the other oppoſite half ſhould appear to us, we ſhould no doubt fancy another Figure from the different ſpots that are in it: Not but that the Moon turns upon her ſelf, and in the ſame time that ſhe turns round the Earth, that is in a Month; but while ſhe is making that turn upon her ſelf, and that ſhe ſhould hid a cheek for Example and appear ſomewhat elſe to us, ſhe makes a like part of her Circle round

round the Earth, and ſtill preſents to us the ſame Cheek; ſo that the Moon, who in reſpect of the Sun and Stars turns round her ſelf, in reſpect of us doth not turn at all; they ſeem to her to riſe and ſet in the ſpace of fifteen days; but for our Earth, it appears to her to be held up in the ſame place of the Heavens: 'Tis true, this apparent Immobility is not very agreeable for a Body which ſhould paſs for a Planet, but it is not altogether perfect, the Moon hath a kind of trembling, which cauſeth a little corner of her face to be ſometimes hid from us, and a little corner of the oppoſite half appears; but then upon my word ſhe attributes that trembling to us, and fancys that we have in the Heavens the motion of a *Pendulum*, which vibrates to and fro.

I find, *ſaith the Counteſs*, the Planets are juſt like us; we caſt that upon others which is in our ſelves; the Earth ſaith, *'Tis not I that turn, 'tis the Sun*; the Moon ſaith, *'tis not I that ſhake, 'tis the Earth*; there is a great deal of errour

errour every where. But I would not adviſe you, *ſaid I*, to undertake the reforming it; you had better convince your ſelf of the entire reſemblance of the Earth and the Moon: Imagine then theſe two great Bowls held up in the Heavens, you know that the Sun always enlightens the one half of a Body that is round, and the other half is in the Shadow; there is then one half of the Earth and one half of the Moon which is enlightned by the Sun; that is, which hath Day, and the other half which is Night. Obſerve alſo that as a Ball hath leſs force after it hath been ſtruct againſt a Wall which ſends it to the other ſide, ſo Light is weakned when it is reflected. This Pale Light which comes to us from the Moon, is the very Light of the Sun, but it cannot come to us from the Moon but by reflection; it hath loſt much of the force and luſtre it had when it came directly from the Sun upon the Moon; and that bright Light which ſhines directly upon us from the Sun, and which the Earth reflects

reflects upon the Moon, is as pale and weak when it arrives there; ſo that the Light which appears to us in the Moon, and which enlightens our Nights, is the parts of the Moon which have Day, and that part of the Earth which hath Day, when it is oppoſite to the part of the Moon which hath Night, gives Light to it: All depends upon how the Moon and the Earth behold one another. At the beginning of the Month we do not ſee the Moon, becauſe ſhe is between the Sun and us; that half of her which hath Day, is then turned toward the Sun, and that half which hath Night, turned towards us; we cannot ſee it then, becauſe it hath no Light upon it; but that half of the Moon which hath Night, being turned to the half of the Earth, which hath Day, ſees us without being perceiv'd, and we then appear to them juſt as the full Moon doth to us; ſo that, as I may ſay, the People of the Moon have then a full Earth; but the Moon being advanc'd upon her Circle of

of a Month, comes from under the Sun and begins to turn towards us a little corner of the half which is Light, there's the Creſcent; then thoſe parts of the Moon which have Night do not ſee all the half of the Earth which hath Day, and we are then in the Wayn to them.

I comprehend you very well, *ſaid the Counteſs*, the People in the Moon have a Month quite contrary to us; when we have a full Moon, their half of the Moon which is Light is turned to our half of the Earth which is dark; they do not ſee us at all, and they have then a new Earth, this is plain. But now tell me how come the Eclipſes? You may eaſily gueſs that, *ſaid I*, when it is new Moon, that ſhe is between the Sun and us, and all her dark half is turned towards us who have Light, that obſcure ſhadow is caſt upon us, if the Moon be directly under the Sun, that ſhadow hids him from us and at the ſame time obſcures a part of that half of the Earth which is Light, which was ſeen by that half

of

of the Moon which was dark, here then is an Eclipſe of the Sun to us during our Day, and an Eclipſe of the Earth to the Moon during her Night. When it is full Moon, the Earth is between her and the Sun, and all the dark half of the Earth is turned towards all the light half of the Moon; the ſhadow then of the Earth caſts it ſelf towards the Moon, and if it falls on the Moon, it obſcures that light half which we ſee, which hath then Day, and hinders the Sun from ſhining on it: Here then is an Eclypſe of the Moon to us during our Night and an Eclypſe of the Sun to the Moon during her day: But the reaſon that we have not Eclypſes every time that the Moon is between the Sun and the Earth, or the Earth between the Sun and the Moon, is, becauſe theſe three Bodies are not exactly placed in a right Line, and by Conſequence that that ſhould make the Eclypſe, caſts its ſhadow a little beſide that which ſhould be obſcured.

I am ſurprized, *ſaid the Counteſs*, that there ſhould be ſo little myſtery in Eclipſes, and that the whole World ſhould not know the cauſe of 'em. Nor never will, *ſaid I*, as ſome People go about it. In the Eaſt Indies, when the Sun and the Moon are in Eclipſe, they believe a certain Devil who hath black Claws is ſeiſing on thoſe Planets with his Talons, and during that time the Rivers are cover'd with the Heads of *Indians*, who are up to the Neck in Water becauſe they eſteem it a very devout Poſture, to implore the Sun and the Moon to defend themſelves againſt the Devil. In *America* they are perſuaded that the Sun and the Moon, when Eclipſed, are angry, and what is it they will not do to be reconciled with them? The *Greeks*, who were ſo refined, did they not believe the Moon was enchanted, and that the Magicians forced her to deſcend from Heaven, and ſhed a dangerous juice on the Plants? Nay, in what a pannick fear were we in above thirty years ago at an Eclipſe of the Sun?

Sun? How many People hid themſelves in their Cellars, and all the Philoſophers of *Greſham* could not perſwade them to come out till the Eclipſe was over?

Methinks, *ſaid ſhe*, 'tis ſcandalous for Men to be ſuch Cowards; there ought to be a general Law of Mankind to prohibit the diſcourſing of Eclipſes, that we might not call to mind the Follies that have been ſaid and done upon that Subject. Your Law then, *ſaid I*, muſt aboliſh even the memory of all things, and forbid us to ſpeak at all, for I know nothing in the World which is not a Monument of the folly of Man.

But what do you think, *ſaid ſhe*, of the People in the Moon, are they as afraid of an Eclipſe as we are? It would be very burleſque for the *Indians* there to be up to the neck in Water; that the *Americans* ſhould believe the Earth angry with them; the *Greeks* fancy we were bewitched, and would deſtroy their Plants; in ſhort, that we ſhould cauſe the ſame Conſternation among them, as they

they do here. And why not, *ſaid I*? I do not doubt it at all; for why ſhould the People of the Moon have more Wit than we? What right have they to affright us and not we them? For my part, I believe that ſince a prodigious Company of Men have been and ſtill are ſuch fools to adore the Moon, there are People in the Moon that worſhip the Earth, and that we are upon our knees the one to the other. But ſure, *ſaid ſhe*, we don't pretend to ſend any influences to the Moon, and to give a Criſis to her ſick; if the People have any Wit in thoſe parts, they will ſoon deſtroy the Honour we flatter our ſelves with, and I fear, we ſhall have the diſadvantage.

Fear it not Madam, *ſaid I*; do you think we are the only Fools of the Univerſe? Is it not conſiſtent with Ignorance to ſpread it ſelf every where? 'Tis true, we can only gueſs at the Folly of the People in the Moon, but I no more doubt it, than I do the moſt authentick News that comes from thence.

What

What News comes from thence, *ſaid ſhew*? That which the Learned bring us, *I reply'd*, who travel thither every day with their Tubes and Telleſcopes: they will tell you of their diſcoveries there, of Lands, Seas, Lakes, high Mountains, and deep Abyſſes.

I fancy indeed, *ſaid ſhe*, they may diſcover Mountains and Abyſſes, becauſe of the remarkable inequality; but how do they diſtinguiſh Lands and Seas? Very eaſily, *ſaid I*, for the Waters letting part of the Light paſs thro' them, ſend back but a very little, ſo that they appear afar off like ſo many dark Spots; whereas the Lands being ſolid, reflect the whole Light, and appear to be more bright and ſhining: Nay, they pretend to be ſo well acquainted with the ſeveral parts that they have given them all Names; one place they call *Copernicus*, another *Archimedes*, another *Galileus*; there is the *Caſpian Sea*, the *Black Lake*, the *Porphirite Mountains*; in ſhort, they have publiſh'd ſuch exact deſcriptions of the Moon, that a very Almanack-ma-

ker will be no more to ſeek there, than I am in *London.*

I muſt own then, *ſaid the Counteſs,* they are very exact; but what do they ſay to the inſide of the Country? I would very fain know that. 'Tis impoſſible, *I reply'd,* Mr. *Flamſted* himſelf, (one of the moſt Learned Aſtronomers of our Age) cannot inform you. You muſt ask that of *Aſtolfo,* who was carried into the Moon by St. *John.* I am going to tell you one of the agreeable Follies of *Arioſto,* and I am confident you will be well pleaſed to hear it: I muſt confeſs he had better have let alone St. *John,* whoſe Name is ſo worthy of Reſpect, but 'tis a Poetical Licenſe, and muſt be allow'd. The Poem is dedicated to a Cardinal, and a great Pope hath honour'd it with his Approbation, which is prefix'd to ſeveral of the Editions; this is the Argument, *Rowland* Nephew to *Charlemagne,* falls mad becauſe the fair *Angelica* prefers *Medore* before him. *Aſtolfo* a Knight Errant, finding himſelf one day in the terreſtrial

terreſtrial Paradiſe, which was upon the top of a very high Mountain, whereto he was carried by his flying Horſe, meets St. *John* there, who tells him, if he would have *Rowland* cured, he muſt make a Voyage with him into the Moon. *Aſtolfo*, who had a great mind to ſee Countries, did not ſtand much upon entreaty, and immediately there came a fiery Chariot which carry'd the Apoſtle and the Knight up into the Air; *Aſtolfo* being no great Philoſopher, was ſurpriz'd to find the Moon ſo much bigger than it appear'd to him when he was upon the Earth; to ſee Rivers, Seas, Mountains, Cities, Foreſts, nay, what would have ſurpriz'd me too, Nymphs hunting in thoſe Foreſts; but that which was moſt remarkable, was a Valley where you might find any thing that was loſt in our World, of what nature ſoever; Crowns, Riches, Fame, and an infinity of Hopes, the time we ſpend in Play, and in ſearching for the Philoſophers Stone, the Alms we give after our Death, the Verſes we preſent to great Men and

Prince, and the Sighs of Lovers. I know not, *ſaid ſhe*, what became of the Sighs of Lovers in the time of *Arioſto*, but I fancy there are very few of 'em aſcend to the Moon in our days. Ah, Madam, *I replyed*, how many doth the Counteſs of *D— —r* ſend thither every day? thoſe that are addreſs'd to her, will make a conſiderable Heap; and I aſſure you the Moon keeps all ſafe that is loſt here below. Yet I muſt tell you *Arioſto* doth but whiſper it, tho every thing is there, even to the donation of *Conſtantine*, (*i.e.*) the Popes have pretended to be Maſters of *Rome* and *Italy* by Virtue of a Donation which the Emperor *Conſtantine* made *Silveſter*; and the truth is, no body knows what is become of it; but what do you think is not to be found in the Moon? Folly, all that ever was upon the Earth is kept there ſtill, but in lieu of it, it is not to be imagined how many Wits (if I may ſo call 'em) that are loſt here, are got up into the Moon, they are ſo many

Vials

Vials full of a very ſubtile Liquor, which evaporates immediately, if it be not well ſtopp'd; and upon every one of theſe Vials the Names are written to whom the Wits belong; I think *Arioſto* hath heap'd 'em upon one another a little confuſedly, but for order ſake we will fancy 'em plac'd upon Shelves in a long Gallery; *Aſtolfo* wonder'd to ſee ſeveral Vials full inſcrib'd with the Names of the moſt conſiderable Stateſemen, Divines, Lawyers, *&c.* Bleſs me, *ſaid he*, is my Lord-- ——— and my Lord ——— here! Sir *Tho.* Sir *Jo.* nay, Doctor ——— and Father ——— too? Why in my Countrey we look upon 'em as Oracles; and after all it ſeems, they are but little better than mad Men, if not ſtark Fools. I find now the poor Rogue was in the right, tho he was ſoundly whipp'd for't, who told the Judge that he had ſeen an Aſs cloathed in Scarlet; and a right Worſhipful Alderman, that he knew not which was the greateſt Bruit of the two, the Beaſt that bore

the Furr, or the Beaſt that wore it; but had I been there, I ſhould have told *Aſtolfo* the ſaucy Knave was well enough ſerv'd, for we are not to look upon the Man, but the Place he fiills; we are to reverence a Magiſtrate when and whereſoever we meet him, and to ſuppoſe his Merit was the ſole cauſe of his Preferment, tho we are certain it came by Bribary or Pimping; but enough of this, let us return to our Vials. To confeſs the truth, I begin to fear ſince I have entertain'd you with theſe Philoſophical and Poetical Viſions, mine there is not very empty; however, 'tis ſome conſolation to me that while you are ſo attentive, you have a little Glaſs full as well as your Servant: The good Knight found his own wits among the reſt, and with the Apoſtles leave ſunffed it all up his Noſe, like ſo much Queen of *Hungary*'s Water; but *Arioſto* ſaid he did not carry it far, it returned again to the Moon a little after.

*The*

* —*The love of one fair Northen Laſs,*
*Sent up his wit unto the place it was.*

Well, he did not forget *Orlando*'s Vial, which was the occaſion of his Voyage, but he was curſedly plagu'd to carry it, for *Hero*'s wits are naturally very heavy, and there did not want one drop of it; in concluſion *Arioſto*, acording to his laudable cuſtom, addreſſeth himſelf to his Miſtreſs in this manner,

**Fair Miſtreſs, who for me to Heav'n ſhall fly,*
*To bring again from thence my wandring wit?*
*Which I ſtill loſe, ſince from that piercing eye*
*The Dart came forth that firſt my Heart did hit:*
*Nor of my loſs at all complain would I,*
*Might I but keep that which remaineth yet:*
*But if it ſtill decreaſe, within ſhort ſpace,*
*I doubt I ſhall be in* Orlando's *caſe;*

*Yet, well I wot where to recover mine,*
*Tho not in Paradiſe, nor* Cynthia's *Sphere,*
*Yet doubtleſs in a Place no leſs divine,*
*In that ſweet Face of yours, in that fair Hair,*
*That ruby Lip, in thoſe two ſtarlike eyn,*
*There is my wit, I know it wanders there,*



* Sir *Jo. Harrington's Tranſlation of* Orland Furioſo *lib.* 36.

*And with my Lips, if you would give me leave,*
*I there would ſearch, I thence would it receive.*

Is not this very fine? To reaſon like *Arioſto*, the ſafeſt way of loſing our wits is to be in love; for you ſee they do not go far from us, we may recovere 'em again at our Lips: but when we loſe 'em by other means, as for example, by Philoſophizing, whip they are gone into the Moon, and there is no coming at 'em again when we would. However, *ſaid the Counteſs*, our Vials have an honourable Station among the Philoſophers, when 'tis forty to one, but Love fixeth our Wits on an Object we cannot but be aſham'd of. But to take away mine intirely, pray tell me, but tell me ſeriouſly, if you believe there are any Men in the Moon; for methinks hitherto you have not been very poſitive. For my part, *ſaid I*, I do not believe there are Men in the Moon, for do but obſeve how much the Face of Nature is chang'd batween this and *China*; other Viſages, Shapes, Manners, nay almoſt o-

ther

ther Principles of Reaſon; and therefore, between us and the Moon the alteration muſt be much more conſiderable. In the Lands that have been lately diſcovered, we can ſcarce call the Inhabitants Men, they are rather Animals of humane ſhape, and that too ſometimes very Imperfect, almoſt without humane Reaſon; he therefore that will travel to the Moon, muſt not expect to find Men there.

What ſort of People will they be then, *ſaid the Counteſs?* Troth, Madam, *ſaid I,* I know not; for put the caſe that we our ſelves inhabited the Moon, and were not Men, but rational Creatures; could we imagin, do you think, ſuch fantaſtical People upon the Earth, as Mankind is? Is it poſſible we ſhould have an Idea of ſo ſtrange a Compoſition, a Creature of ſuch fooliſh Paſſions, and ſuch wiſe Reflections? So Learned in things of no uſe, and ſo ſtupidly Ignorant of what moſt concerns him? So much concern for Liberty, and yet ſuch great inclinations to Servitude? So deſirous of Happineſs,

Happineſs, and yet ſo very incapable of being ſo? the People in the Moon muſt be wiſe indeed to ſuppoſe all this of us. But do we not ſee our ſelves continually, and cannot ſo much as gueſs how we were made? So that we are forc'd to ſay the Gods when they created us were drunk with Nectar,& when they were ſober again, could not chuſe but laugh at their own handy-work. Well, well, *ſaid the Counteſs*, we are ſafe enough then, they in the Moon know nothing of us; but I could wiſh we were a little better acquainted with them, for it troubles me that we ſhould ſee the Moon above us, and yet not know what is done there. Why, *ſaid I*, are you not as much concern'd for that part of the Earth which is not yet diſcover'd? What Creatures inhabit it, and what they do there? for we and they are carry'd in the ſame Veſſel: they poſſeſs the Prow, and we the Poop, and yet there is no manner of Communication between us; they do not know at one end of the Ship

Ship who lives or what is done at the other end; and you would know what paſſeth in the Moon, which is another great Veſſel, ſailling in the Heavens at a vaſt diſtance from us.

Oh, *ſaid ſhe*, for the Earth I reckon it all as good as diſcover'd, and can gueſs at the People, tho I never heard a word of 'em; for certainly they all reſemble us very much, and we may know 'em better when we have a mind to't; they will ſtay where they are, and 'tis no more but going to ſee 'em; but we cannot get into the Moon if we would, ſo that I deſpair of knowin what they do there. You would laugh at me, *ſaid I*, if I ſhould anſwer you ſeriouſly, perhaps I may deſerve it, and yet, I fancy. I can ſay a great deal to juſtifie a ridiculous thought that is juſt now come into my Head; nay to uſe the Fools beſt Argument, I'll lay a wager I make you own (in ſpite of Reaſon) that one of theſe

theſe days there may be a Communication betwen the Earth and the Moon, and who knows what great Advantages we may procure by it? Do but conſider *America* before it was diſcover'd by *Columbus*, how profoundly ignorant were thoſe People, they knew nothing at all of Arts and Sciences, they went naked, had no other Arms but a Bow and Arrows, and did not conceive they might be carried by Animals; they look'd upon the Sea as a wide Space, for bidden to Man, that it was joyn'd to the Heavens, and that beyond it was nothing: 'Tis true, after having ſpent whole years in making hollow the truks of great Trees with ſharpe ſtones, they put themſelves to Sea in theſe Trunks, and floated from Land to Land, as the Wind and Waves drove 'em; but how often was their Trough overſet, and they forc'd to recover it again by ſwimming? So that (except when they were on the Land) it might be ſaid they were continually ſwimming:

And

And yet had any one but told 'em of another kind of Navigation incomparably more perfect and uſeful than their own, that they might eaſily paſs over that infinite Space of Water, that they might ſtop in the middle of the Waves, and in ſome ſenſe command the Winds, and make their Veſſel go faſt or ſlow as they pleas'd; in ſhort, that this impaſſable Ocean ſhould be no obſtacle to their converſing with another different people; do you think they would have believ'd you? and yet at laſt that day is come; the unheard of and moſt ſurprizing Sight appears, vaſt great Bodies, with white Wings, are ſeen to fly upon the Sea, to vomit Fire from all Parts, and to caſt on their Shoars an unknown People, all ſcaled with Iron, who diſpoſe and govern Monſters as they pleaſe; carry Thunder in their Hands, and over throw and deſtroy whoever reſiſts 'em: From whence came they? Who brought 'em over the Sea? Who gave to 'em the Diſpoſal of the Fire

of

of Heaven? Are they Gods? Are they Sons of the Sun? for certainly they are not Men. Do but conſider, Madam, the ſurprize of the *Americans*, there can be nothing greater; and after this, ſhall any one ſay there ſhall never be a Communication between the Moon and the Earth. Did the *Americans* believe there would ever be any between them and *Europe*, till it came to paſs? 'Tis true, you muſt paſs this great Space of Air and Heaven which is between the Earth and the Moon; but did not thoſe vaſt Seas ſeem at firſt as impaſſable to the *Americans*? You rave, I think, *ſaid ſhe*, did you not own the *Americans* were ſo ignorant, that they had not the leaſt conception of croſſing the Sea; but we who know a great deal more than they, can imagine and fancy the going through the Air, tho we are aſſur'd it is not to be done. There is ſomewhat more than fancy, *I reply'd*, when it hath been already practis'd for ſeveral have found the ſecret of faſtening Wings,

Wings, which bear them up in the Air, to move them as they pleaſe, and to fly over Rivers, and from Steeple to Steeple; I cannot ſay indeed they have yet made an Eagles flight, or that it doth not coſt now and then a Leg or an Arm to one of theſe new Birds; but this may ſerve to repreſent the firſt Planks that were launch'd on the Water, and which were the very beginning of Navigation; there were no Veſſels then thought of to ſail round the World, and yet you ſee what great Ships are grown by little and little from thoſe firſt Planks. The Art of Flying is but newly invented, it will improve by degrees, and in time grow prefect; then we may fly as far as the Moon. We do not yet pretend to have diſcover'd all things, or that what we have diſcov'rd can receive no addition; and therefore, pray let us agree, there are yet many things to be done in the Ages to come. Were you to live a thouſand Ages, *ſaid the Counteſs,*

I can never believe you will fly, but you muſt endanger your Neck. I will not, *I reply'd*, be ſo unmannerly as to contradict a fair Lady, but tho we cannot learn the Art here, I hope you will allow they my fly better in the Moon; 'tis no great matter whether we go to them, or they come to us, we ſhall then be the *Americans*, who knew nothing of Navigation, and yet there were very good Ships at t'other end of the World. Were it ſo, *ſaid ſhe*, the People in the Moon would have been here before now. All in good time, *ſaid I*, the *Europians* were not in *America* till at the end of ſome thouſands of years, they were ſo long in improving Navigation to the point of croſſing the Ocean. The People in the Moon have already made ſome ſhort Voyages in the Air; they are exerciſing continually, and by degrees will be more expert, than we ſhall ſee 'em, and God knows how we ſhall be ſurprized. It is unſufferable, *ſaid ſhe*, you

you ſhould banter me at this rate, and juſtifie your ridiculous Fancy by ſuch falſe reaſoning. I am going to demonſtrate, *ſaid I*, you reproach me very unjnſtly: Conſider, Madam, that the World is unfolded by degrees; for the Ancients were very poſitive, that the Torrid and Frigid Zones were not inhabitable, by reaſon of their exceſſive Heat and Cold; and in the time of the *Romans*, the general Map of the World was but very little extended beyond that of their Empire; which tho in one ſenſe, expreſs'd much Grandeur, in another ſenſe, was a ſign of as great Ignorance; however, there were Men found both in very hot and in very cold Countrys; ſo that you ſee the World is already encreas'd; after that, it was thought that the Ocean cover'd the whole Earth, except what was then diſcover'd, there was no talk then of the Antipodes, not ſo much as a thought of 'em, for who could fancy their Heels at top, and their Heads

at bottom, and yet after all their fine reaſoning, the Antipodies were diſcover'd; here's now another half of the World ſtarts up, and a new Reformation of the Map; methinks this, Madam, ſhould reſtrain us, and teach us not to be ſo poſitive in our Opinions, the World will unfold it ſelf more to us hereafter; then we ſhall know the People in the Moon as well as we do now the Antipodes; but all things muſt be done in order, the whole Earth muſt be firſt diſcover'd, and till we are perfectly acquainted with our own Habitation, we ſhall never know that of our Neighbours. Without fooling, *ſaid the Counteſs*, you are ſo very profound in this Point, that I begin to think you are in earneſt, and believe what you ſay. Not ſo neither, *ſaid I*, but I would ſhew you how eaſie it is to maintain a chymerical Notion, that may (like ſome opinions in Religion,) perplex a Man of Underſtanding, but never perſwade him; there is nothing per-

perſwades but Truth, it hath no need of all its proofs, but enters naturally into our Underſtanding; and when once we have learn'd it, we do nothing but think of it. I thank you then, *ſaid ſhe*, for impoſing on me no longer; for I confeſs your falſe reaſoning diſturb'd me, but now I ſhall ſleep very quietly, if you think fit to go home.

# *The Third Evening.*

THE Counteſs was ſo intent upon her Notions, that ſhe would fain have engag'd me next day, to go on where I left off; but I told her, ſince the Moon and Stars were become the Subject of our Diſcourſe, we would truſt our Chymæras with no body elſe: At Night we went again into the Park, which was now dedicated to our learned Converſation.

Well, Madam, *ſaid I*, I have great News for you; that which I told you laſt Night, of the Moon's being inhabited, may not be ſo now: There is a new Fancy got into my Head, which puts thoſe People in great danger. I cannot ſuffer it, *ſaid ſhe*; yeſterday you were preparing me to receive a Viſit from'em, and now there are no ſuch Peo-

ple

ple in Nature: Once you would have me believe the Moon was inhabited; I ſurmounted the Difficulty I had, and will now believe it. You are a little too nimble, *I replyed*; did I not adviſe you never to be entirely convinc'd in things of this nature, but to reſerve half of your underſtanding free and diſengag'd, that you may admit of the contrary opinion, if there be any occaſion. I care not for your Sentences, *ſaid ſhe*, let us come to matter of Fact. Are we not to conſider the Moon as *Greenwich*? No, *ſaid I*, the Moon doth not ſo much reſemble the Earth, as *Greenwich* doth *London*: The Sun draws from the Earth and Water, Exhalations and Vapours, which mounting to a certain height in the Air, do there aſſemble and form the Clouds; theſe uncertain Clouds are driven irregularly round the Globe, ſometimes ſhadowing one Countrey, and ſometimes another; he then who beholds the Earth from a-far off, will ſee frequent alterations upon its ſurface, becauſe a great Country over-

caſt with Clouds, will appear dark or light, as the Clouds ſtay, or paſs over it; he will ſee the Spots on the Earth often change their Place, and appear or diſappear as the Clouds remove; but we ſee none of theſe changes wrought upon the Moon, which would certainly be the ſame, were there but Clouds about her; but on the contrary, all her Spots are fix'd and certain, and her light parts continue where they were at firſt, which truely is a great misfortune; for by this reaſon, the Sun draws no Exhalations or Vapours above the Moon; ſo that it appears ſhe is a Body infinitely more hard, and ſolid than the Earth whoſe ſubtile parts are eaſily ſeparated from the reſt, and mount upwards as ſoon as heat puts them in Motion: But it muſt be a heap of Rock and Marble, where there is no Evaporation; beſides, Exhalations are ſo natural and neceſſary where there is Water, that there can be no Water at all, where there is no Exhalation; and what ſort of Inhabitants

habitations muſt thoſe be, whoſe Country affords no Water, is all Rock, and produceth nothing? Very fine, *ſaid ſhe*, you have forgot ſince you aſſur'd me, we might from hence diſtinguiſh Seas in the Moon; nay, You or your Friends were Godfathers to ſome of 'em. Pray, what is become of your *Caſpian* Sea, and your Black Lake? All Conjecture, Madam, *I replyed*, tho for your Ladyſhips ſake, I am very ſorry for it; for thoſe dark places we took to be Seas, may perhaps be nothing but large Cavities; 'tis hard to gueſs aright at ſo great a diſtance. But will this ſuffice then, *ſaid ſhe*, to extirpate the People in the Moon? Not altogether, *I reply'd*, we will neither determine for, nor againſt them. I muſt own my weakneſs (if it be one) *ſaid ſhe*, I cannot be ſo perfectly undetermined as you would have me to be, but muſt believe one way, or the other; therefore pray fix me quickly in my opinion, as to the Inhabitants of the Moon; preſerve or annihilate them,

as you ſhall think fit; and yet methinks I have a ſtrange inclination for 'em, and would not have 'em deſtroy'd, if it were poſſible to ſave 'em. You know, Madam, *ſaid I*, I can deny you nothing; the Moon ſhall be no longer a Deſart, but to do you ſervice, we will repeople her. Since to all appearance the Spots in the Moon do not change, I cannot conceive there are any Clouds about her, that ſometimes obſcure one part, and ſometimes another; yet this doth not hinder, but that the Moon ſends forth Exhalations, and Vapours. Our Clouds which we ſee in the Air, are nothing but Exhalations and Vapours, which at their coming out of the Earth, were ſeparated into ſuch minute Particles, that they could not be diſcern'd; but as they aſcend higher, they are condens'd by the Cold, and by the re-union of their Parts, are render'd viſible; after which they become great Clouds, which fluctuate in the Air, till they return back again in Rain; however theſe Exhalations and

and Vapours do ſometimes keep themſelves ſo diſpers'd, that they are imperceptible; or if they do aſſemble, it is in forming ſuch ſubtile Dews that they cannot be diſcern'd to fall from any Cloud. It may likewiſe happen, that the Vapours which go out of the Moon (for it is incredible that the Moon is ſuch a Maſs, that all its parts are of an equal Solidity, all at reſt one with another, and all incapable of any alteration from the efficacy of the Sun; I am ſure we are yet unacquainted with ſuch a Body: Marble it ſelf is of another Nature, and even that which is moſt Solid, is ſubject to change and alteration; either from the ſecret and inviſible motion it hath within it ſelf, or from that which it receives from without) it may ſo happen then, that the Vapours which iſſue from the Moon, may not aſſemble round her in Clouds, and may not fall back again in Rain, but only in Dews. It is ſufficient for this, that the Air with which the Moon is environ'd, (for it is certain that the Moon is encompaſſed with Air

as

as well as the Earth) be a little different from our Air, and the Vapours of the Moon a little different from thoſe of the Earth, which is very probable. Hereupon the matter being otherwiſe diſpos'd in the Moon than on the Earth, the Effects muſt be different; tho it is of no great conſequence whether they are or no; for from the moment we have found an inward motion in the parts of the Moon, or produced by foreign Cauſes, here is enough for the new birth of its Inhabitants, and a ſufficient and neceſſary fund for their ſubſiſtance. This will furniſh us with Corn, Fruit, Water, according to the cuſtom or manner of the Moon, which I do not pretend to know; and all proprotion'd to the wants and uſe of the Inhabitants, with whom I pretend to be as little acquainted. That is to ſay, *reply'd the Counteſs*, you know all is very well, without knowing how it is ſo, which is a great deal of Ignorance upon a very little Knowledge; however I comfort my ſelf, that you have given the Moon her

her Inhabitants again, and have wrap'd her in an Air of her own, without which a Planet would ſeem but very naked.

'Tis theſe two different Airs, *ſaid I*, that hinder the Communication of the two Planets; if it was only flying, as I told you yeſterday, who knows but we may improve it to perfection, tho I confeſs there is but little hopes of it; the great diſtance between the Moon and the Earth is a difficulty not eaſily to be ſurmounted, yet were the diſtance but inconſiderable, and the two Planets almoſt contiguous, it would be ſtill impoſſible to paſs from the Air of the one, into the Air of the other: The Water is the Air of Fiſhes, they never paſs into the Air of the Birds, nor the Birds into the Air of the Fiſh; and yet 'tis not the diſtance that hinders them, but both are impriſoned by the Air they breath in; we find our Air conſiſts of thicker and groſſer Vapours than the Air of the Moon. So that one of her Inhabitants arriving at the Confines of

of our World, as ſoon as he enters our Air will inevitably drown himſelf, and we ſhall ſee him fall dead on the Earth.

I ſhould rejoyce at a Wreck, *ſaid the Counteſs*, as much as my Neighbours on the Coaſt of *Suſſex*; how pleaſant would it be to ſee 'em lie ſcattered on the ground, where we might conſider at our eaſe, their extraordinary Figures? But what, *ſaid I*, if they could ſwim on the outward ſurface of our Air, and be as curious to ſee us, as you are to ſee them; ſhould they Angle or caſt a Net for us, as for ſo many Fiſh, would that pleaſe you? why not? *ſaid the Counteſs*; For my part I would go into their Nets of mine own accord, were it but for the pleaſure to ſee ſuch ſtrange Fiſhermen.

You would be very Sick, *ſaid I*, when you were drawn to the top of our Air, for it is not reſpirable in all its extent, as may be ſeen on the tops of ſome

ſome very high Mountains; and I admire that they who have the folly to believe that our *Faries*, whom they allow to be Corporeal, and to inhabit the moſt pure and refin'd Air, do not tell us that the reaſon why they give us ſuch ſhort and ſeldom viſits, is that there are very few among them that can dive, and thoſe that can, if it be poſſible to get through the thick Air where we are, cannot ſtay half ſo long in it, as one of the worſt of Sir *Harry Blunt*'s Sponge getherers. Here then are natural Barricades, which defend the paſſage out of our World, as well as the Entry into that of the Moon; ſo that ſince we can only gueſs at that World, let us fancy all we can of it. For Example, I will ſuppoſe that we may ſee there the Firmament, the Sun, and the Stars, of another colour than what they are here; all theſe appear to us through a kind of Natural Spectacles, which change and alter the Objects. Theſe Spectacles are our Air, mix'd as it is with Vapours and Exhalations, and which doth not extend

it

it ſelf very high. Some of our Modern Philoſophers pretend, of it ſelf its is blue, as well as the Water of the Sea, and that this colour neither appears in the one nor in the other, but at a great depth; the Firmament, ſay they, where the fix'd Stars are faſtned, hath no peculiar light of its own, and by conſequence muſt appear black, but we ſee it through the Air which is blue, and therefore to us it appears blue; which if ſo, the Beams of the Sun and Stars cannot paſs through the Air without being ting'd a little with its colour, and loſing as much of their own; yet were the Air of no colour, it is very certain, that through a great Miſt the light of a *Flambeau* at ſome diſtance appears reddiſh, though it be not its true natural colour. Our Air is nothing but a great Miſt, which changeth the true colour of the Skey, of the Sun and of the Stars; it belongs only to the Celeſtial Matter to bring us the Light and Colours as they really are in all their purity; ſo that ſince the Air of the Moon is of another nature than our Air, or is

ſtain'd

ſtain'd of another colour, or at leaſt is another kind of Miſt, which cauſeth other alterations to the Colours of the Celeſtial Bodies; in ſhort, as to the People of the Moon, their Spectacles through which they ſee every thing are chang'd.

If it be ſo, *ſaid the Counteſs*, I prefer my abode before that of the Moon; for I cannot believe the Celeſtial Colours are ſo well ſuited as they are here; for if you will let us put green Stars on a red Sky, they cannot be ſo agreeable as Stars of Gold on an Azure Firmament. To hear you, *ſaid* I, one would think you was chuſing a Petticoat, or a ſuit of Knots; but believe me, Nature hath as good a Fancy as Mrs. *Harriſon*; leave it to her to chuſe Colours for the Moon, and I'll engage they ſhall be well ſorted; ſhe will not fail to vary the Proſpect of the Univerſe, at every different point of Sight, and always the Alteration ſhall be very agreeable. I know very well, *ſaid the Counteſs*, her Skill in this Point; ſhe is not

not at the charge of changing the Objects, but only the Spectacles, and hath the credit of this great variety, without being at any expence; with a blue Air, she gives us a blue Firmament; and perhaps with a red Air, she gives to the Inhabitants of the Moon a red Firmament; and yet still it is but the same Firmament; nay, I am of opinion, she hath plac'd a sort of Spectacles in our Imagination, through which we see all things, and which to every particular Man change the Objects. *Alexander* look'd on the Earth as a fit place to establish a great Empire, it seem'd to *Celadon* a proper residence for *Astræa*, and it appear'd to a Philosopher, a great Planet in the Heavens, cover'd with Fools: I do not believe the Sights vary more between the Earth and the Moon, than they do between one man's Fancy and anothers.

This change in our Imaginations, *said I*, is very surprizing; for they are still the same Objects, tho' they appear different;

ferent; when in the Moon, we may ſee other Objects we do not ſee here, or at leaſt, not ſee all there we do ſee here; perhaps in that Country they know nothing of the Dawn and the Twilight, before the Sun riſeth, and after the Sun ſets; the Air which encompaſſeth, and is elevated above us, receives the Rays, ſo that they cannot ſtrike on the Earth; and being groſs, ſtops ſome of them, and ſends 'em to us, tho' indeed they were never naturally deſign'd us; ſo that the Day-break and the Twilight are a favour which Nature beſtows on us; they are a Light which regularly we ſhould not have, and which ſhe gives us over and above our due; but in the Moon, where apparently the Air is more pure, and therefore not ſo proper to ſend down the Beams it receives from the Sun before his riſing, and after his ſetting; you have not that Light of Grace (as I may call it) which growing greater by degrees, doth more agreeably prepare you for the arrival of the Sun, and which growing weaker, and diminiſhing by

degrees, doth inſenſibly prepare you for the Sun's departure: But you are in a profound darkneſs, where a Curtain (as it were) is drawn all on a ſudden, your Eyes are immediately dazled with the whole light of the Sun, in all its glory and brightneſs; ſo likewiſe, you are on a ſudden ſurpriz'd with utter Darkneſs; the Night and the Day have no medium between them, but you fall in a moment from one extreme into the other. The Rainbow likewiſe is not known to them in the Moon; for if the Dawn is an effect of the groſſneſs of the Air and Vapours, the Rainbow is form'd in the Clouds, from whence the Rain falls; ſo that the moſt beautiful things in the World, are produced by thoſe things which have no beauty at all. Since then there are no Vapours thick enough, nor no Clouds of Rain about the Moon, farewell Dawn, adieu Rainbow: What muſt Lovers do for Similies in that Country, when ſuch an inexhauſtible Magazine of Compariſons is taken from them?

I doubt

I doubt not, *ſaid the Gounteſs*, but there are thoſe in the Moon as good at Simily as the greateſt Beau in *Covent-Garden*; and had they neither Sun nor Stars, Pearls nor Rubies, Roſes nor Lillies, yet could ſay as many fine things to a Viſor Mask, as the perteſt Wit at the *Puppet ſhow*; and they are well enough recompenc'd for the loſs of our Dawn and Rainbow; for by the ſame reaſon, they have neither Thunder nor Lightning, both which are formed in the Clouds; how glorious are their Days, the Sun continually ſhing? How pleaſant their Nights, not the leaſt Star is hid from them? They never hear of Storms or Tempeſts, which certainly are an effect of the wrath of Heaven: Do you think then they ſtand in need of our pity? You are deſcribing the Moon, *I replyed*, like an enchanted Palace; but do you think it is ſo pleaſant to have a ſcorching Sun always over our Head, and not the leaſt Cloud to moderate its Heat? Tho' I fancy 'tis for this reaſon

that Nature hath made great Cavities in the Moon; we can diſcern 'em eaſily with our Telleſcopes, for they are not Mountains, but ſo many Wells or Vaults in the middle of a Plain; and what do we know but the Inhabitants of the Moon, being continually broil'd by the exceſſive heat of the Sun, do retire in-thoſe great wells; perhaps they live no where elſe, and 'tis there they build 'em Cities; for we ſtill ſee in the Ruines of old *Rome*, that that part of the City which was under ground, was almoſt as large as that which was above ground. I fancy, during the late ſiege of *Buda*, they lived there as they do in the Moon, or 'tis but going to the *Fountain Tavern* Cellar, where the ſeveral Vaults are as ſo many high Streets, the Vats, Pipes, Hogsheads, ſo many different Edifices, and the Drawers and Coopers, like ſo many *Troglodites*. I perceive you laugh at me, yet if I may be ſo free with a fair Lady, you deſerve it much better than I; for you believe the People in the Moon muſt live upon the ſurface of their

their Planet, becauſe we do ſo upon ours; but quite contrary, ſince we dwell upon the Superficies of our Planet, they ſhould not dwell upon the ſuperficies of their Planet; if things differ ſo much in this World, what muſt they do in another?

'Tis no matter, *ſaid the Counteſs*, I can never ſuffer the Inhabitants of the Moon to live in perpetual darkneſs. You will be more concern'd for 'em, *I reply'd*, when I tell you that one of the ancient Philoſophers did long ſince diſcover the Moon to be the abode of the bleſſed Souls departed out of this Life, and that all their happineſs conſiſted in hearing the Harmony of the Spheres; that is, the Muſick (I had like to have ſaid Noiſe) which is made by the motion of the Celeſtial Bodies; if you have ſeen a *Rarée Show*, you will eaſily comprehend it: But becauſe the Philoſopher pretends to know exactly all they do there, he tells you, that when the Moon is obſcured by the ſhadow of

the Earth, they no longer hear the Heavenly Muſick, but howll like ſo many Souls in Purgatory; ſo that the Moon taking pity of 'em, makes all the haſt, ſhe can to get into the Light again. Methinks then, *ſays ſhe*, we ſhould now and then ſee ſome of the Bleſſed Souls arrive here from the Moon, for certainly they are ſent to us. I confeſs indeed, *ſaid I*, it would be very pleaſant to ſee different Worlds; ſuch a Voyage, tho' but in imagination, is very delightful; what would it be in effect? It would be much better certainly than to go to *Japan*, which at beſt, is but crawling from one end of the World to t'other, and after all to ſee nothing but Men. Well then, *ſays ſhe*, let us travel over the Planets, as faſt as we can; what ſhould hinder us? Let us place our ſelves at all the different Proſpects, and from thence conſider the Univerſe. But firſt, have we any thing more to ſee in the Moon? I believe not, *I replyed*; at leaſt, you have ſeen all I can ſhew you. Coming

ing out of the Moon, towards the Sun, we ſee *Venus*, which puts me again in mind of *Greenwich*. *Venus* turns upon her ſelf, and round the Sun, as well as the Moon; they likewiſe diſcover by their Telleſcopes, that *Venus* like the Moon, if I may ſpeak after the ſame manner) is ſometimes new, ſometimes full,and ſometimes in the Wayn,according to the divers ſituations ſhe is in, in reſpect of the Earth.

The Moon to all appearance, is inhabited, why ſhould not *Venus* be ſo too? You are ſo full of your Whys, and your Wherefores, *ſays ſhe*, interrupting me, that I fancy you are ſending Colonies to all the Planets. You may be certain, ſo I will, I *replyed*, for I ſee no reaſon to the contrary; we find that all the Planets are of the ſame nature, all obſcure Bodies, which receive no light but from the Sun, and then ſend it to one another; their motions are the ſame ſo that hitherto they are alike; and yet if we are to believe that theſe vaſt Bo-

dies are not inhabited, I think they were made but to little purpoſe; why ſhould Nature be ſo partial, as to except only the Earth? But let who will ſay the contrary, I muſt believe the Planets are peopled as well as the Earth. I find, *ſays the Counteſs*, with ſome concern, a Philoſopher will never make a good Martyr, you can ſo quickly ſhift your Opinion, 'twas not many minutes ſince the Moon was a perfect Deſart, now the reſt of the Planets are inhabited. Why truly, Madam, *ſaid I*, there is a time for all things, and your true Philoſopher believes any thing, or nothing, as the Maggot bites. Had you taken me in the ſceptical Vein, I would have as ſoon granted a Nation in a Muſtard Ball, as a living Creature in the Moon; but the tide is turn'd, and all the Planets are Peopled like an Ant-hill; yet, Raillery apart, this is not ſo very improbable as you think it; for do you believe we diſcover, (as I may ſay) all the Inhabitants of the Earth? there be as many kinds of inviſible as viſible

viſible Creatures; we ſee from the Elephant to the very hand-worm, beyond which our ſight fails us, and yet counting from that minute Creature, there are an infinity of leſſer Animals, which were they perceptible, would be as little in compariſon with a Mite, as a Mite is of an Ox. How lately have our Virtuoſo's found out the Pepper Worms, which in the leaſt drop of Water appear like ſo many Dolphins, ſporting in the Ocean; nay, they tell you that the ſharpneſs of Vineger conſiſts in the fierceneſs of the little Animals that bite you by the Tongue; not to name the blue on Plums, and twenty Experiments of the like nature.

Nay, to ſhew you that they can ſee as far into a Milſtone as *Deſcartes* himſelf, they have diſcovered that ſeveral, even of the moſt ſolid Bodies, are nothing but an immenſe ſwarm of imperceptible Animals: Do but conſider this little Leaf; why it is a great World, of a vaſt extent, what Mountains, what Abyſſes

byſſes are there in it? the Inſects of one ſide, know no more of their fellow Creatures on t'other ſide, than you and I can tell what they are now doing at the Antipodes; is it not reaſon then that a great Planet ſhould be inhabited? In the hardeſt Stones for Example, in Marble, there are an infinity of Worms, which fill up the vacuums, and feed upon the ſubſtance of the Stone; fancy then millions of living Creatures to ſubſiſt many years on a grain of Sand; ſo that were the Moon but one continued Rock, ſhe ſhould be gnaw'd by theſe inviſible Mites, (as if ſhe were a green Cheeſe) rather than not be inhabited: In ſhort, every thing is animated, and the Stones upon *Saliſbury Plain* are as much alive as a Hive of Bees; imagine then thoſe Animals which are yet undiſcovered, and add them and thoſe which are but lately diſcover'd, to thoſe we have always ſeen, you will find the Earth ſwarms with Inhabitants. Why then ſhould Nature which is fruitful to an exceſs here, be ſo very barren in the reſt of the

the Planets? I muſt own, *ſaid the Counteſs*, you have convinc'd my Reaſon, but you have confounded my fancy, with ſuch variety, that I cannot imagine how Nature, which hates Repetitions, ſhould produce ſo many different kinds. There is no need of Fancy, *I reply'd*, do but truſt your Eyes, and you will eaſily perceive how Nature diverſifies in theſe ſeveral Worlds.

All humane Faces, in general, are of the ſame Model, and yet the *Europeans* and the *Africans* have two particular Moulds; nay, commonly every Family have a different Form; what ſecret then has Nature to ſhew ſo much variety in the ſingle Face? Our World, in reſpect of the Univerſe, is but a little Family; all whoſe Faces have ſome reſemblance; in another place, there is another Family, whoſe faces have a different Air and Faſhion; the difference too increaſeth with the diſtance, for whoſoever ſhould ſee an Inhabitant of the Moon, and an Inhabitant of the Earth, would ſoon perceive

ceive they were nearer Neighbours than one of the Earth, and one of *Saturn*; here, for Example, we have the uſe of Voice, in another World, they ſpeak by Signs, and at a greater diſtance they do not ſpeak at all; here our Reaſon is form'd by Experience, in the next World, Experience contributes little towards it; and in the next to that, old Men know no more than Children; here we are troubled more with what is to come, than with what is paſt; further off, they are not concerned with either, which by the way, I think, is much the better: Here, 'tis thought we want a ſixth Senſe, which would teach us many things, of which we are now ignorant; this ſixth Senſe is apparently in another World, where they want one of the five which we enjoy; nay, perhaps there is a much greater number of Senſes, but in the Partition we have made of 'em with the Inhabitants of the other Planets, there are but five fall'n to our ſhare, with which we are well contented, for want of being acquainted

quainted with the reſt: Our Sciences have bounds, which the wit of Man could never paſs; there is a point where they fail us on a ſudden, the reſt is reſerv'd for other Worlds, where ſomewhat which we know, is unknown to them. This Planet enjoys the pleaſures of Love, but lies deſolate in ſeveral places by the fury of War; in another Planet they enjoy a perpetual Peace, yet in the midſt of that Peace, know nonothing of Love, and time lies on their hands; in a word, that which Nature practiſes here in little, in diſtributing her Gifts among Mankind; ſhe does at large in other Worlds, where ſhe makes uſe of that admirable ſecret ſhe hath to diverſifie all things, and at the ſame time makes 'em equal, by compenſating for the inequality; this I confeſs is on the Borders of Nonſenſe, but a Man is ne'er the leſs a Philoſopher for being a little obſcure, if not unintelligible.

But is it not time, Madam, to be ſerious, how will you diſpoſe of all theſe Notions; Trouble not your ſelf, *ſays ſhe*, Fancy is a great Traveller; I already comprehend theſe ſeveral Worlds, and repreſent to my ſelf their different Characters and Cuſtoms; ſome of 'em, I aſſure you, are very extraordinary; I ſee at this moment, a thouſand different Figures, tho I cannot well deſcribe 'em. Oh leave 'em, *I reply'd*, to your Dreams, they will repreſent 'em very faithfully.

THE

# The Fourth Evening.

I Have been told of a Phyſician that makes his Patients dream as he pleaſes, by preſcribing ſuch a Specifick for their Supper, as works thoſe impreſſions he would have on the Fancy; of what uſe he may be to the modern Poets, I leave to the curious; and return to the Counteſs, who either did not dream at all, or nothing to the purpoſe; ſo that continuing our Voyage to the other World, we could only gueſs at their Inhabitants. We were come to *Venus*, and I told her, that *Venus* certainly turn'd on it ſelf, tho no body could tell in what time, and conſequently were ignorant how long her Day laſted; but her Year was compos'd of eight Months, becauſe 'tis in that time ſhe turns round the Sun: And ſeeing *Venus* is forty times leſs than the Earth, the Earth appears (to them in *Venus*) to be a Planet, forty times bigger than *Venus* appears to us

on

on the Earth; and as the Moon is forty times leſſer than the Earth, ſo ſhe ſeems to be juſt of the ſame magnitude, to the Inhabitants of *Venus*, as here *Venus* ſeems to us.

I ſee then, *ſays the Counteſs*, that the Earth is not to *Venus*, what *Venus* is to the Earth I mean, that the Earth is too bigg to be the Mother of Love, or the Shepherd's Star to *Venus*; but the Moon, which appears to *Venus*, of the ſame bigneſs that *Venus* appears to us, is aſſign'd to be the Mother of Love, and Shepherds Star to *Venus*; for ſuch names are only proper for a little brisk airy Planet, bright, and ſhining as the Goddeſs her ſelf. Oh, bleſſed Moon, how happy art thou to preſide over the Amours of thoſe gallant People, where all they ſay, is ſoft and moving, and perfectly refin'd from the droſs of our Wits, who are fitter for a Bear-Garden than a *Circle*? How groſs is their Courtſhip? how mean their Raillery? without any diſtinction of time, place, or perſon; they make Love, (as they call it) but one way, and

and the form is the ſame, at a Farce, or Funeral. Be not ſo very ſevere, *I reply'd*, if ſome of our *Beaux* ſpeak plain *Engliſh*, ſome of your *Belles*, like 'em ne're the worſe for't: The art of Love is as much improv'd as the art of War, the Generals of this Age take a Town in two days, which in the laſt, held out as many years; and the Roſes, Lillies, Pearls, and Rubies, (a whining Lovers train of Artillery) are grown as uſeleſs as Bows and Arrows: Tho' after all, I muſt own they have another Standard in the Planet *Venus*; there *Clelia* and *Partheniſſa*, is below the language of Grooms and Chamber-Maids; and every Porter and Car-Man a perfect Sir *Courtly*; but then conſider the difference of Climats; *Venus* is much nearer than the Earth is to the Sun, from whence ſhe receives a more vigorous and active influence.

I find, *ſays the Counteſs*, it is eaſie enough to gueſs at the Inhabitants of *Venus*; they reſemble what I have read of the *Moors* of *Granada*, who were a

little black People, ſcorch'd with the Sun, witty, full of Fire, very Amorous, much inclin'd to Muſick and Poetry, and ever inventing Maſques and Turnaments in honour of their Miſtreſſes, Pardon me, Madam, *ſaid I*, you are little acquainted with the Planet; *Granada* in all its Glory, was a perfect *Greenland* to it; and your gallant *Moors*, in compariſon with that People, were as ſtupid as ſo many *Laplanders*.

But what do you think then of the Inhabitants of *Mercury*? They are yet nearer to the Sun, and are ſo full of Fire, that they are abſolutely mad; I fancy, they have no Memory at all, like moſt of the *Negroes*, that they make no reflections, and what they do is by ſudden ſtarts, and perfect hap-hazard; in ſhort, *Mercury* is the Bedlam of the Univerſe; the Sun appears to them much greater then it does to us, becauſe they are much nearer to it than we; it ſends them ſo vaſt and ſtrong a Light, that the moſt glorious day here, would be no more with them than a declining twilight;

twilight: I know not if they can diſtinguiſh Objects, but the heat to which they are accuſtom'd, is ſo exceſſive, that they would be ſtarved with Cold in the Torrid Zone; their Year is but three Months, but we know not the exact length of their Day, becauſe *Mercury* is ſo little, and ſo near the Sun; it is, (as it were) loſt in his Rays, and is very hardly diſcover'd by the Aſtronomers; ſo that they cannot obſerve how it moves on its Centre, but becauſe it is ſo little, fancy it compleats its Motion in a little time; ſo that by conſequence, the Day there is very ſhort, and the Sun appears to them like a vaſt fiery Furnace at a little Diſtance, whoſe Motion is prodigiouſly ſwift and rapid; and during their Night, *Venus* and the Earth (which muſt appear conſiderably big) give light to them; as for the other Planets which are beyond the Earth, towards the Firmament, they appear leſs to them in *Mercury*, than they do to us here, and they receive but little Light from them, perhaps none at all; the fix'd Stars like-

wiſe ſeem leſs to them, and ſome of 'em totally diſappear, which, were I there, I ſhould eſteem a very great loſs.

What ſignifies the loſs of a few fix'd Stars? *ſays the Counteſs*; I pity 'em for the exceſſive heat they endure; let us give 'em ſome relief, and ſend *Mercury* a few of the refreſhing Showers they have ſometimes four Months together in the hotteſt Countries during their greateſt extremity. Your Fancy is good, Madam, I reply'd, but we will relieve 'em another way; In *China* there are Countries which are extreamly hot by their Situation: Yet in *July* and *Auguſt* are ſo cold, that the Rivers are Frozen; the reaſon is, they are full of Salt-Petre, which being exhal'd in great abundance by the exceſſive heat of the Sun, makes a perfect Winter at Midſummer. We will fill the little Planet with Salt-Petre, and let the Sun ſhine as hot as he pleaſes. And yet after all, who knows but the Inabitants of *Mercury* may have no occaſion either for Rain, or Salt-Petre? If it is a certain truth, that Nature never

never gives life to any Creature, but where that Creature may live; then thro' Cuſtom, and ignorance of a better Life, thoſe People may live happily.

After *Mercury* comes the Sun, but there is no poſſibility of Peopling it, nor no room left for a Wherefore. By the Earth which is inhabited, we judge that other Bodies of the ſame Nature may be likewiſe inhabited; But the Sun is a Body not like the Earth or any of the Planets; the Sun is the Source or Fountain of Light, which tho' it is ſent from one Planet to another, and receives ſeveral alterations by the way, yet all originally proceeds from the Sun, he draws from himſelf that precious ſubſtance which he emits from all ſides, and which reflects when it meets with a ſolid Body, and ſpreads from one Planet to another thoſe long and vaſt trains of Light which croſs, ſtrike thro', and intermingle in a thouſand different faſhions, and make (if I may ſo ſay,) the Richeſt Tiſſu's in the World. The Sun likewiſe is placed

in the Centre, from whence with moſt Convenience, he may equally diſtribute and animate by his Heat; it is then a particular Body, but what ſort of Body has often puzled better Heads than mine. It was thought formerly a Body of pure Fire, and that Opinion paſſed currant till the beginning of this Age; when they perceived ſeveral Spots on its Surface. A little after they had diſcover'd new Planets, (of which, hereafter) which ſome ſaid were thoſe Spots; for thoſe Planets moving round the Sun, when they turned their Dark half to us, muſt neceſſarily hide part of it; and had not the Learned with theſe pretended Planets made their Court before to moſt of the Princes in *Europe*, giving the Name of this Prince to one, and of that Prince to another Planet; I believe they would have quarrel'd who ſhould be Maſter of theſe Spots, that they might have nam'd them as they pleas'd.

'Twas but t'other day, *ſays the Counteſs*, you were deſcribing the Moon, and call'd ſeveral Places by the Names of the

the moſt famous Aſtronomers. I was pleaſed with the Fancy; for ſince the Princes have ſeiz'd on the Earth; 'tis fit the Philoſophers (who are as proud as the beſt of 'em) ſhould reſerve the Heavens for themſelves without any Competitors. Oh! Trouble not your ſelf, *ſaid I*, the Philoſophers make the beſt Advantage of their Territories; and if they part with the leaſt Star, 'tis on very good Terms; let me tell you, an Acre of Land in *England*, is worth ten thouſand in the Moon, but the Spots on the Sun are fallen to nothing; the Actions of *Penſilvania* are not half ſo low, 'tis now diſcover'd that they are not Planets, but Clouds, Streams, or Droſs, which riſe upon the Sun, ſometimes in great Quantity, ſometimes in leſs; ſometimes they are dark, ſometimes clear, ſometimes they continue a great while, and ſometimes they diſappear as long. It ſeems the Sun is a Liquid Matter, ſome think of melted Gold, which boils over (as it were) continually, and by the Force of its Motion calls

the Scum or Droſs on its ſurface, where it is conſumed, and others ariſe. Imagine then what ſtrange Bodies theſe are, when ſome of them are as big as the Earth; What a vaſt quantity muſt there be of this melted Gold, and what muſt be the extent of this great Sea of Light and Fire which they call the Sun? Others ſay, the Sun appears through their Telleſcopes, [which are the Aſtronomers Spectacles] full of Mountains which vomit Fire continually, and are joyn'd together like Millions of *Etna*'s. Yet there are thoſe that ſay theſe burning Mountains are pure Viſion, caus'd by a fault in the Spectacles; but what ſhall we truſt, if we muſt diſtruſt our Telleſcopes to which we owe the knowledge of ſo many New Objects? But let the Sun be what it will, it cannot be at all proper for habitation; and what pity 'tis not, for how pleaſant would it be? You might then be at the Centre of the Univerſe, where you would ſee all the Planets turn regularly about you; but now we know nothing but extravagant fancies,

fancies, becauſe we do not ſtand in the proper place; there is but one place in the World where the ſtudy or knowledge of the Stars is eaſily obtain'd, and what pity 'tis there is no body there. You forget your ſelf ſure, *ſays ſhe*, were you in the Sun you would ſee nothing, neither Planets nor fix'd Stars; doth not the Sun efface all? So that could there be any Inhabitants there, they might juſtly think themſelves the only people in Nature.

I own, *ſaid I*, my miſtake; I was thinking of the Situation of the Sun, and not of the effect of its Light: I thank you for you Correction, but muſt take the boldneſs to tell you, that you are in an Errour, as well as my ſelf; for were there Inhabitants in the Sun, they would not ſee at all, either they could not bare the ſtrength of its light, or for want of a due diſtance, they could not receive it; ſo that things well conſider'd, all the People there muſt be ſtark blind, which is another reaſon why the Sun cannot be Inhabited; but let us

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purſue our Voyage. We are now arriv'd at the Centre, which is always the Bottom, or loweſt Place of what is round; if we go on, we muſt aſcend; we ſhall find *Mercury*, *Venus*, the Earth, the Moon, all the Planets we have already viſited; the next is *Mars*: *Mars* hath nothing curious that I know of, his Day is not quite an Hour longer than ours, but his Year is twice as much as our Year; he is a little leſs than the Earth; and the Sun ſeems not altogether ſo large and ſo bright to him, as it appears to us? But let us leave *Mars*, he is not worth our ſtay: But what a pretty thing is *Jupiter*, with his four Moons, or Yeomen of the Guard; they are four little Planets that turn round him, as our Moon turns round us. But why, *ſays ſhe, interrupting me*, muſt there be Planets to turn round other Planets, that are no better than themſelves? I ſhould think it would be more regular and uniform, that all the Planets, little and great, without any diſtinction, ſhould have one and the ſame motion round the Sun.

Ah

Ah, Madam, *ſaid I*, if you knew what were *Deſcartes*'s Whirlpools or Vortex's, (whoſe Name is terrible, but their Idea pleaſant) you would not talk as you do. Muſt my Head, *ſays ſhe, ſmiling* turn round to comprehend 'em, or muſt I become a perfect Fool to underſtand the Miſteries of Philoſophy? Well, let the World ſay what it will, go on with your Whirlpools. I will, *ſaid I*, and you ſhall ſee the Whirlpools are worthy of theſe Tranſports: That then which we call a Whirlpool, or Vortex, is a Maſs of Matter, whoſe Parts are ſeperated or detach'd one from another, yet have all one uniform Motion, and at the ſame time, every one is allow'd or has a particular Motion of its own, provided it follows the general Motion: Thus a Vortex of Wind, or Whirlwind, is an infinity of little Particles of Air, which turn round all together, and involve whatever they meet with. You know the Planets are born up by the Celeſtial Matter, which is prodigiouſly ſubtile and active; ſo that this great

great Maſs, or Ocean of Celeſtial Matter, which flows as far as from the Sun to the fix'd Stars, turns round, and bears the Planets along with it, making them all turn after the ſame manner round the Sun, who poſſeſſes the Centre, but in a longer or a ſhorter time, according as they are farther or nearer in diſtance to it; there is nothing to the very Sun, which does not turn, but he turns on himſelf, becauſe he is juſt in the middle of this Celeſtial Matter; and you muſt know by the way, that were the Earth in his place, it muſt turn on it ſelf, as the Sun does. This is the great Vortex, of which the Sun is Lord; yet at the ſame time, the Planets make little particular Vortex's, in imitation of that of the Sun, each of them in turning round the Sun, doth at the ſame time turn round it ſelf, and makes a certain quantity of Celeſtial Matter turn round it likewiſe, which is always prepar'd to follow the Motion the Planet gives it, provided it is not diverted from its general Motion; this then is the particular

lar Vortex of the Planet, which puſhes it as far as the ſtrength of its Motion reaches, and if by chance, a leſſer Planet falls into the Vortex of a greater Planet, it is immediately born away by the greater, and is indiſpenſably forc'd to turn round it, tho' at the ſame time, the great Planet, the little Planet, and the Vortex which encloſes 'em, all turn round the Sun: 'Twas thus at the beginning of the World, when we made the Moon follow us, becauſe ſhe was within the reach of our Vortex, and therefore wholly at our diſpoſe: *Jupiter* was ſtronger, or more fortunate than we, he had four little Planets in his neighbourhood, and he brought 'em all four under his ſubjection; and no doubt, we, tho' a principal Planet, had had the ſame Fate, had we been within the Sphere of his Activity; he is ninety times bigger than the Earth, and would certainly have ſwallow'd us into his Vortex; we had then been no more than a Moon in his Family, when now we have one to wait on us; ſo that you

you ſee the Advantage of Situation, decides often all our good Fortune.

But pray, *ſays ſhe*, who can aſſure us we ſhall ſtill continue as we do now? If we ſhould be ſuch Fools as to go near *Jupiter*, or he ſo Ambitious as to approach us, what will become of us? For if (as you ſay) the Celeſtial Matter is continually under this great Motion, it muſt needs agitate the Planets irregularly; ſometimes drive 'em together, and ſometimes ſeperate 'em. Luck is all, *ſaid I*; we may win as well as loſe, and who knows, but we ſhould bring *Mercury* and *Venus* under our Government; they are little Planets, and cannot reſiſt us; but in this Particular, Madam, we need not hope or fear; the Planets keep within their own Bounds, and are oblig'd (as formerly the Kings of *China* were) not to undertake new Conqueſts. Have you not ſeen when you put Water and Oyl together, the Oyl ſwims a top; and if to theſe two Liguors, you add a very light Liquor, the Oyl bears it up, and it will not ſink to the Water: But

put

put an heavier Liquor, of a juſt weight and it will paſs through the Oyl, which is too weak to ſuſtain it, and ſink till it comes to the Water, which is ſtrong enough to bear it up; ſo that in this Liquor, compos'd of two Liquors, which do not mingle, two Bodies of an unequal weight, will naturally aſſume two different Places; the one will never aſcend, the other will never deſcend: Fancy then that the Celeſtial Matter which fills this great Vortex, hath ſeveral reſting Places, one by another, whoſe weight are different, like that of Oyl, Water, and other Liquors; the Planets too are of a different Weight, and conſequently every Planet ſettles in that Place which has a juſt ſtrength to ſuſtain and keep it equilibrate, ſo you ſee 'tis impoſſible it ſhould ever go beyond.

Would to God, *ſays the Counteſs*, our World were as well regulated, and every one among us knew their proper Place. I am now in no fear of being over-run by *Jupiter*; and ſince he lets us alone in our Vortex, with our Moon, I do not envy

envy him the four which he hath. Did you envy him, *I reply'd*, you would do him wrong, for he has no more than what he has occaſion for; at the diſtance he is from the Sun, his Moons receive, and ſend him but a very weak light; it is true, that as he turns upon himſelf in Ten Hours, his Nights, by conſequence, are but Five Hours long; ſo one would think there is no great occaſion for four Moons; but there are other things to be conſidered. Here under the Poles, they have ſix Months Day, and ſix Months Night, becauſe the Poles are the two extremities of the Earth, the fartheſt removed from thoſe places where the Sun is over 'em in a Perpendicular Line. The Moon ſeems to keep almoſt the ſame courſe as the Sun, and if the Inhabitants of the Pole ſee the Sun during one half of his courſe of a Year, and during the other half, do not ſee him at all; they ſee the Moon likewiſe during one half of her courſe of a Month; that is, ſhe appears to 'em Fifteen Days, but they do not ſee her during

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the other half. *Jupiter*'s Year is as much as twelve of ours, ſo that there muſt be two oppoſite extremities in that Planet, where their Night and their Day are ſix Years each. A Night ſix Years long, is a little diſconſolate, and 'tis for that reaſon, I ſuppoſe, they have four Moons; that which (in regard to *Jupiter*) is uppermoſt, finiſheth its courſe about him in Seventeen Days, the Second in ſeven, the Third three Days and an half, and the Fourth in two and forty Hours; and tho' they are ſo unfortunate as to have ſix years Night, yet their courſe being exactly divided into halves, they never paſs above one and twenty Hours, wherein they do not ſee at leaſt the laſt Moon, which is a great comfort in ſo tedious a darkneſs; ſo that be where you will, theſe four Moons are ſometimes the prettieſt ſight imaginable; ſometimes they riſe all four together, and then ſeparate according to the inequality of their courſe; ſometimes they are all in their Meridian, rang'd one above another, ſometimes you ſee 'em at equal

diſtances on the Horizon, ſometimes when two riſe, the other two go down. Oh, how I ſhou'd love to ſee this pleaſant Sport of Eclipſes; for there is not a Day paſſes but they Eclipſe the Sun, or one another; and they are ſo accuſtom'd to this diverſion in *Jupiter*, that the late Duke of *B----m* in *his Reherſal*, brought the Dance of Eclipſes from that Planet, as now moſt of our modiſh Dances come out of *France*.

Well, *ſays the Counteſs*, I hope you will People theſe four Moons, tho' you ſay they are but little ſecondary Planets, appointed to give Light to another Planet during its Night. Do not doubt it, *I reply'd*; theſe Planets are not a jot the worſe to be inhabited, for being forc'd to turn round another Planet of greater Conſequence. I would have then, *ſays ſhe*, the People of theſe four Moons, to be ſo many Colonies under *Jupiter*'s Government; they ſhould receive their Laws and Cuſtoms from him. Would it not be convenient too, *ſaid I*, that they ſhould ſend Deputies with Addreſſes

dreſſes to him; for he hath certainly a more abſolute command over his Moon, than we have over ours; tho' his Power after all, is but imaginary, and conſiſts chiefly in making 'em afraid; for that Moon which is neareſt to him, ſees that he is three Hundred and ſixty times bigger than our Moon appears to us; for in truth, he is ſo much bigger than ſhe; he is alſo much nearer to them, than our Moon is to us, the which makes him appear the greater, ſo that this formidable Planet hangs continually over their Heads, at a very little diſtance and if the *Gauls* were afraid heretofore that the Heavens would fall on 'em, I think the Inhabitants of that Moon may well be apprehenſive that *Jupiter* will at ſome time or other overwhelm 'em. They are, *ſays ſhe*, I fancy, poſſeſs'd with that fear, becauſe they are not concern'd at Eclipſes: Every one has their due folly; we are afraid of an Eclipſe, and they, that *Jupiter* will fall on their Heads. It is very true, *ſaid I*, the Inventer of the third Syſtem, I told you t'other

night, the famous *Ticho Brahe*, (one of the greateſt Aſtronomers that ever was,) did not apprehend the leaſt danger from an Eclipſe, when every body elſe was under the greateſt conſternation; yet this great Man had as an unaccountable a fear, did a Hare croſs him, or were the firſt Perſon he met in a Morning an old Woman, home preſently went *Ticho Brahe*, he ſhut himſelf up for that day, and would not meddle with the leaſt Buſineſs.

Let us go on with ours tho', *ſays the Counteſs*, and leave *Ticho Brahe* to defend his Superſtition. Pray tell me, if the Earth be ſo little in compariſon of *Jupiter*, whether his Inhabitants do diſcover us? Indeed, *ſaid I*, I believe not; for if we appear to him ninety times leſs than he appears to us; judge you if there be any poſſibility: Yet this we may reaſonably conjecture, that there are Aſtronomers in *Jupiter*, that after they have maid the moſt curious Teleſcopes, and taken the cleareſt Night for their obſervations, they may have diſcover'd a little Planet in the Heavens,

which

which they never ſaw before; if they publiſh their diſcovery, moſt People know not what they mean, or laugh at 'em for Fools; nay, the Philoſophers themſelves will not believe 'em, for fear of deſtroying their own Opinions; yet ſome few may be a little curious; they continue their obſervations, diſcover the little Planet again, and are now aſſur'd it is no Viſion; then they conclude it hath a motion round the Sun, which it compleats in a year, and at laſt, (thanks to the Learned,) they know in *Jupiter* our Earth is a World, every body runs to ſee it at the end of the Teleſcope, tho' 'tis ſo little, 'tis hardly diſcover'd.

It muſt be pleaſant, *ſays ſhe*, to ſee the Aſtronomers of both Planets, levelling their Tubes at one another, like two Files of Muſqueteers, and mutually asking, what World is that? What People inhabit it? Not ſo faſt neither, *I reply'd*, for tho' they may from *Jupiter* diſcover our Earth, yet they may not know us; that is, they may not have

the leaſt ſuſpicion it is inhabited; and ſhould any one there chance to have ſuch a fancy, he might be ſufficiently ridicul'd, if not proſecuted for it; for my part, I believe they have work enough to make diſcoveries on their own Planet, not to trouble their Heads with ours; and had Sir *Francis Drake* and *Columbus* been in *Jupiter*, they might have had good employments; why, I warrant you, they have not yet diſcover'd the hundredth part of their Planet. But if *Mercury* is ſo little, they are all (as it were) near Neighbours, and 'tis but taking a walk, to go round that Planet. But if we do not appear to 'em in *Jupiter*, they cannot certainly diſcover *Venus* and *Mercury*, which are much leſs than the Earth, and at a greater diſtance; but in lieu of it, they ſee *Mars*, their own four Moons, and *Saturn*, with his; this I think is work enough for their Aſtronomers; and Nature hath been ſo kind to conceal from 'em the reſt of the Univerſe. Do you think it a favour then, *ſays ſhe?* Yes certainly, *ſaid I*, for there are ſixteen Planets

nets in this great Vortex: Nature ſaves us the trouble of ſtudying the Motions of 'em all, and ſhows us but Seven, which I think is very obliging, tho' we know not how to value the kindneſs, for we have recover'd the other Nine which were hid from us, and ſo render the Science of Aſtronomy much more difficult than Nature deſign'd it.

If there are ſixteen Planets, *ſays ſhe*, *Saturn* muſt have five Moons. 'Tis very true, *ſaid I*, and two of theſe five, are but lately diſcover'd; but there is ſomewhat that is more remarkable, ſince his Year is thirty of ours, there are conſequently in him ſome Countries, where their Night is fifteen Years long; and what can you imagine Nature hath invented to give Light, during ſo dreadful a Night? Why, ſhe hath not only given *Saturn* five Moons, but ſhe hath encompaſs'd him round with a great Circle or Ring, the which being plac'd beyond the reach of the ſhadow which the Body of that Planet caſts, reflects the light of the Sun continually on thoſe places

where they cannot ſee the Sun at all.

I proteſt, *ſays the Counteſs*, this is very ſurprizing, and yet all is contriv'd in ſuch great order, that it is impoſſible not to think but Nature took time to conſider the neceſſities of all animate Beings, and that the diſpoſing of theſe Moons was not a work of Chance, for they are only divided among thoſe Planets which are fartheſt diſtant from the Sun, the Earth, *Jupiter*, *Saturn*; indeed it was not worth while to give any to *Mercury* or *Venus*, they have too much light already; and they account their Nights (as ſhort as they are) a greater bleſſing than their Day. But pray, why was not *Mars* a Moon too? It ſeems he has none, tho' he is much further than the Earth from the Sun. It is very true, *ſaid I*; no doubt but he hath other helps, tho' we do not know 'em: You have ſeen the *Phoſphorus*, both liquid and dry, how it receives and imbibes the rays of the Sun, and what a great light it will caſt in a dark Place: Per haps *Mars* hath many great high Rocks, which are ſo many natural

tural *Phoſphorus*'s, which in the day take in a certain proviſion of light, and return it again at Night. What think you, Madam, is it not very pleaſant when the Sun is down to ſee thoſe lighted Rocks, like ſo many Illuminations at a Birth-day Night? Beſides, there is a kind of Bird in *America*, that yields ſuch a light, you may read by it in the darkeſt Night; and who knows but *Mars* may have great flocks of theſe Birds, that as ſoon as it is Night, diſperſe themſelves into all parts, and ſpread from their Wings another day.

I am not at all contented, *ſays ſhe*, with your Rocks, or your Birds; 'tis a pretty fancy indeed, but 'tis a ſign that there ſhould be Moons in *Mars*, ſince Nature hath given ſo many to *Saturn* and *Jupiter*; and if all the other Worlds that are diſtant from the Sun, have Moons, why ſhould *Mars* only be excepted? Ah, Madam, *ſaid I*, when you are a little more dip'd in Philoſophy, you will find exceptions in the very beſt Syſtems; there are always ſome things that agree extream

extream well, but then there are others that do not accord at all; thoſe you muſt leave as you found 'em, if ever you intend to make an end: We will do ſo by *Mars*, if you pleaſe, and ſay no more of him; but return to *Saturn*. What do you think of his great Ring, in the form of a ſemy Circle, that reaches from one end of the Horizon to the other, which reflecting the light of the Sun, performs the office of a continual Moon? And muſt we not inhabit this Ring too, *ſays ſhe*? I confeſs, *ſaid I*, in the humour I am in, I could almoſt ſend Colonies every where; and yet I can't well plant any there, it ſeems ſo irregular a habitation; but for the five little Moons, they cannot chuſe but be inhabited; tho' ſome think this Ring is a Circle of Moons, which follow cloſe to one another, and have an equal Motion; and that the five little Moons fell out of this Circle; how many Worlds are there then in the Vortex of *Saturn*? But let it be how it will, the People in *Saturn* live very miſerably: 'Tis true, this Ring gives light to 'em, but

but it muſt be a very poor one, when the Sun ſeems to 'em but a little pale Star, whoſe light and heat cannot but be very weak at ſo great a diſtance; they ſay *Greenland* is a perfect *Bagnio* in compariſon of that Planet, and that they would expire with heat in our coldeſt Countries.

You give me, *ſays ſhe*, ſuch an Idea of *Saturn*, that makes me ſhake with cold, and that of *Mercury*, puts me into a feaver. It cannot be otherwiſe, *I reply'd*, for the two Worlds, which are the extremities of this great Vortex, muſt be oppoſite in all things. They muſt then, *ſays ſhe*, be very wiſe in *Saturn*, for you told me they were all Fools in *Mercury*. If they are not wiſe, *ſaid I*, yet they have all the appearances of being very Flegmatick: They are People that know not what it is to laugh, they take a days time to anſwer the leaſt queſtion you can ask 'em; and are ſo very grave, that were *Cato* living among 'em, they would think him a *merry Andrew*.

It

It is odd to conſider, *ſays ſhe*, that the Inhabitants of *Mercury* are all life, and the Inhabitants of *Saturn* quite contrary; but among us, ſome are brisk, and ſome are dull; it is, I ſuppoſe, becauſe our Earth is plac'd in the middle of the other Worlds, and ſo we participate of both extreams, there is no fix'd or determin'd Character; ſome are made like the Inhabitants of *Mercury*, ſome like thoſe of *Saturn*; we are a mixture of the ſeveral kinds that are found in the reſt of the Planets. Why, *ſaid I*, do you not approve of the Idea? Methinks it is pleaſant to be compos'd of ſuch a fantaſtical Aſſembly, that one would think we were collected out of different Worlds; we need not travel, when we ſee the other Worlds in Epitome at home.

I am ſure, *ſays the Counteſs*, we have one great convenience in the ſituation of our World; it is not ſo hot as *Mercury* or *Venus*, nor ſo cold as *Jupiter* or *Saturn*; and our Country is ſo juſtly plac'd, that we have no exceſs either of Heat or Cold. I have heard of a Philoſopher,

ſopher, who gave thanks to Nature that he was born a Man, and not a Beaſt, a *Greek*, and not a *Barbarian*; and for my part, I render thanks that I am ſeated in the moſt temperate Planet of the Univerſe, and in one of the moſt temperate Regions of that Planet. You have more reaſon, *ſaid I*, to give thanks that you are Young, and not Old; that you are Young and Handſome, and not Young and Ugly; that you are Young, Handſome and an *Engliſh* Woman, and not Young, Handſome, and a *Spaniard*, or an *Italian*; theſe are other-gueſs Subjects for your thanks, than the Situation of your Vortex, or the Temperature of your Country.

Pray Sir, *ſays ſhe*, let me give thanks for all things, to the very Votex in which I am planted: Our proportion of Happineſs is ſo very ſmall, that we ſhould loſe none, but improve continually what we have, and be grateful for every thing, tho' never ſo common or inconſiderable. If nothing but exquiſite pleaſure will ſerve us, we muſt wait a long time, and be ſure

ſure to pay too dear for it at laſt. I wiſh, *ſaid I*, that Philoſophy was the pleaſure you propoſe, that when you think of Vortex's you would not forget an humble Servant of your Ladyſhips. I eſteem it a pleaſure, *ſays ſhe*, while it diverts innocently, but no longer. I will engage for it till to morrow, *I reply'd*, for the fix'd Stars are beyond what you have yet ſeen.

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THE

# THE
# Fifth EVENING.

THE Counteſs was very impatient to know what would become of the fix'd Stars; are they inhabited, *ſays ſhe*, as the Planets are, or are they not inhabited? What ſhall we do with 'em? You may ſoon gueſs, *ſaid I*; the fix'd Stars cannot be leſs diſtant from the Earth than fifty millions of leagues; nay, if you anger an Aſtronomer, he will ſet 'em further. The diſtance from the Sun to the fartheſt Planet, is nothing in compariſon of the diſtance from the Sun, or from the Earth, to the fix'd Stars, it is almoſt beyond Arithmetick. You ſee their light is bright and ſhining, and did they receive it from the Sun, it muſt needs be very weak after a paſſage of fifty millions of Leagues; then judge how much it is waſted by reflection; for it comes back again as far to us; ſo that forwards

and

and backwards, here are an hundred millions of Leagues for it to paſs; and it is impoſſible it ſhould be ſo clear and ſtrong as the light of a fix'd Stars, which cannot but proceed from it ſelf; ſo that, in a word, all the fix'd Stars are ſo many Suns.

I perceive, *ſays the Counteſs*, where you would carry me; you are going to tell me, that if the fix'd Stars are ſo many Suns, and our Sun the centre of a Vortex that turns round him, why may not every fix'd Star be the centre of a Vortex that turns round the fix'd Star? Our Sun enlightens the Planets; why may not every fix'd Star have Planets to which they give Light? You have ſaid it, *I reply'd*, and I will not contradict you.

You have made the Univerſe ſo large, *ſays ſhe*, that I know not where I am, or what will become of me; what is it all to be divided into heaps confuſedly, one among another? Is every Star the Centre of a Vortex, as big as ours? Is that vaſt ſpace which comprehends our Sun and Planets, but an inconſiderable part of the Uni-

Univerſe? And are there as many ſuch ſpaces, as there are fix'd Stars? I proteſt it is dreadful. Dreadful, Madam, *ſaid I*; I think it very pleaſant, when the Heavens were a little blue Arch, ſtuck with Stars; methought the Univerſe was too ſtrait and cloſe, I was almoſt ſtifled for want of Air; but now it is enlarg'd in heighth and breadth, and a thouſand and a thouſand Vortex's taken in; I begin to breath with more freedom, and think the Univerſe to be incomparably more magnificent than it was before. Nature hath ſpar'd no coſt, even to profuſeneſs, and nothing can be ſo glorious, as to ſee ſuch a prodigious number of Vortex's, whoſe ſeveral centres are poſſeſs'd by a particular Sun, which makes the very Planets turn round it. The Inhabitants of a Planet of one of theſe innumerable Vortex's, ſee on all ſides theſe luminous centres of the Vorte, with which they are encompaſs'd; but perhaps they do not ſee the Planets, who receiving but a faint Light from their Sun, cannot ſend it beyond their own World.

You preſent me with a kind of Perſpective of ſo vaſt a length, that no Eye can reach to the end of it: I plainly ſee the Inhabitants of the Earth, and you have made me diſcover thoſe that dwell in the Moon, and in other Planets of our Vortex; but theſe indeed, I do not ſee ſo clearly as thoſe of the Earth; after theſe, we come to the Inhabitants of the Planets which are in the other Vortex's, but they are ſunk into ſo great a depth, that tho' I do all I can to ſee them, yet I muſt confeſs I can hardly perceive 'em; by the expreſſion you uſe in ſpeaking of 'em, they ſeem to be almoſt annihilated; you ought then to call 'em the Inhabitants of one of thoſe innumerable Vortex's: We our ſelves, for whom the ſame expreſſion ſerves, muſt confeſs, that we ſcarce know where we are, in the midſt of ſo many Worlds; for my own part, I begin to ſee the Earth ſo fearfully little, that I believe from henceforth, I ſhall never be concern'd at all for any thing; That we ſo eagerly deſire to make our ſelves great, that we are always deſigning,

always

always troubling and haraſſing our ſelves, is certainly becauſe we are ignorant what theſe Vortex's are; but now I hope my new Lights will in part juſtifie my Lazineſs, aud when any one reproaches me with my careleſsneſs, I will anſwer, *Ah did you but know what the fix'd Stars are!* It was not fit, *ſaid I*, that *Alexander* ſhould know what they were; for a certain Author who maintains that the Moon is inhabited, very gravely tells us, that *Ariſtotle*, (from whom no truth could be long conceal'd) muſt neceſſarily be of an opinion, back'd with ſo much reaſon; but yet he could never acquaint *Alexander* with the ſecret, fearing he might run mad with deſpair, when he knew there was another World which he could not conquer; with much more reaſon then was this Myſtery of Vortex's, and fix'd Stars kept ſecret in *Alexander*'s time; for tho' they had been known in thoſe days, yet a Man would have been a great Fool, to have ſaid any thing of 'em to *Alexander*; it had been but an ill way of making his court that ambitious

Prince; for my part, I that know 'em, am not a little troubled to find my ſelf not one jot the wiſer for all the knowledge I have of 'em; the moſt they can do, according to your way of reaſoning, is but to cure People of their ambition, and their unquiet reſtleſs humour, which are diſeaſes I am not at all troubled with; I confeſs, I am guilty of ſo much weakneſs, as to be in love with what is beautiful; that's my diſtemper, and I am confident, the Vortex's can never cure it: What if the other Worlds render ours ſo very little? They cannot ſpoil fine Eyes, or a pretty Mouth; their value is ſtill the ſame, in ſpite of all the Worlds that can poſſibly exiſt.

This Love, *reply'd the Counteſs*, ſmiling, is a ſtrange thing; let the World go how 'twill, 'tis never in danger; there is no Syſtem can do it any harm. But tell me freely, is your Syſtem true? Pray conceal nothing from me; I will keep your ſecret very faithfully; it ſeems to have for its foundation, but a ſlight probability; which is, that if a fix'd

fix'd Star be in it ſelf a luminious Body, like the Sun, then by conſequence, it muſt, as the Sun is, be the Centre and Soul of a World; and have its Planets turning round about it: But is there an abſolute neceſſity it muſt be ſo? Madam, *ſaid I*, ſince we are in the humour of mingling amorous Follies with our moſt ſerious Diſcourſe, I muſt tell you that in Love and the Mathematicks, People reaſon alike: Allow never ſo little to a Lover, yet preſently after you muſt grant him more; nay, more and more; which will at laſt go a great way: In like manner, grant but a Mathematician one little Principle, he immediately draws a conſequence from it, to which you muſt neceſſarily aſſent; and from this conſequence another, till he leads you ſo far (whether you will or no) that you have much ado to believe him. Theſe two ſorts of People, Lovers and Mathematicians, will always take more than you give 'em. You grant that when two things are like one another in all thoſe things that appear to you, it is poſſible

they may be like one another in thoſe things that are not viſible, if you have not ſome good Reaſon to believe otherwiſe: Now this way of arguing have I made uſe of. The Moon, *ſay I*, is inhabited, becauſe ſhe is like the Earth; and the other Planets are inhabited, becauſe they are like the Moon; I find the fix'd Stars to be like our Sun, therefore I attribute to them what is proper to that: You are now gone too far to be able to retreat, therefore you muſt go forward with a good Grace. But, *ſays the Counteſs*, if you build upon this Reſemblance or Likeneſs which is between our Sun and the fix'd Stars, then, to the People of another great Vortex, our Sun muſt appear no bigger than a ſmall fix'd Star, and can be ſeen only when 'tis Night with them. Without doubt, Madam, *ſaid I*, it muſt be ſo: Our Sun is much nearer to us, than the Suns of other Vortex's, and therefore its Light makes a much greater Impreſſion on our Eyes, than theirs do: We ſee nothing but the Light of our own Sun, and when we ſee that, it darkens

darkens and hinders us from ſeeing any other Light: but in another great Vortex, there is another Sun, which rules and governs, and, in its turn, extinguiſheth the Light of our Sun, which is never ſeen there, but in the Night, with the reſt of the other Suns, that is the fix'd Stars; with them our Sun is faſtned to the great arched Roof of Heaven, where it makes a part of ſome Bear or Bull: For the Planets which turn round about it, (our Earth for Example) as they are not ſeen at ſo vaſt a Diſtance, ſo no Body doth ſo much as dream of 'em: All the Suns then are Day Suns in their own Vortex's, but Night Suns in other Vortex's: In his own World or Sphere every Sun is ſingle, and there is but one to be ſeen; but every where elſe, they ſerve only to make a Number. May not the Worlds, *reply'd the Counteſs*, notwithſtanding this great Reſemblance between 'em, differ in a thouſand other things; for tho' they may be alike in one particular, they may differ infinitely in others.

It is certainly true, *ſaid I*; but the difficulty is to know wherein they differ. One Vortex hath many Planets that turn round about its Sun; another Vortex hath but a few: In one Vortex, there are inferiour or leſs Planets, which turn about thoſe that are greater; in another perhaps, there are no inferiour Planets; here, all the Planets are got round about their Sun, in form of a little Squadron; beyond which, is a great void Space, which reacheth to the neighbouring Vortex's: In another Place, the Planets take their Courſe towards the out ſide of their Vortex, and leave the middle void. There may be Vortex's alſo quite void, without any Planets at all; others may have their Sun not exactly in their Centre; and that Sun may ſo move, as to carry its Planets along with it: Others may have Planets which in regard of their Sun, aſcend, and deſcend, according to the change of their Equilibration, which keeps them ſuſpended. But I think I have ſaid enough for a Man that was never out of his own Vortex.

It

It is not ſo much, *reply'd the Counteſs*, conſidering what a multitude of Worlds there are; what you have ſaid is ſufficient but for five or ſix, and from hence I ſee thouſands.

What, Madam, would you ſay, if I ſhould tell you, there are many more fix'd Stars than thoſe you ſee? and that an infinite Number are diſcover'd with Glaſſes, which never ſhew'd themſelves to our Eyes: In only one Conſtellation, where it may be, we count twelve or fifteen, there are as many to be found as uſually appear in the whole Hemiſphere.

I ſubmit, *ſays the Counteſs*, and beg your pardon: You quite confound me with Worlds and Vortex's. I have yet more to tell you, Madam, *ſaid I:* You ſee that whiteneſs in the Sky, which ſome call the *milky way*; can you imagine what that is? 'Tis nothing but an infinity of ſmall Stars, not to be ſeen by our Eyes, becauſe they are ſo very little; and they are ſown ſo thick, one by another, that they ſeem to be one continu'd whiteneſs:

neſs: I wiſh you had a Glaſs, to ſee this Ant-hill of Stars, and this Cluſter of Worlds, if I may ſo call 'em: They are in ſome ſort, like the *Maldivian* Iſlands: thoſe twelve thouſand Banks of Sand, ſeparated by narrow Channels of the Sea, which a Man may leap as eaſily, as over a Ditch: So near together are the Vortex's of the Milky way, that the People in one World, may talk, and ſhake Hands with thoſe of another; at leaſt I believe the Birds of one World, may eaſily fly into another; and that Pigeons may be train'd up to carry Letters, as they do in the *Levant*. Theſe little Worlds are excepted out of that general Rule, by which one Sun in his own Vortex, as ſoon as he appears, effaceth the Light of all other foreign Suns: If you were in one of theſe little Vortex's of the Milky way, your Sun would not be much nearer to you, and conſequently, would not make any much greater ſenſible Impreſſion on your Eyes, than a hundred thouſand other Suns of the neighbouring Vortex's You would then ſee your Heaven ſhine bright

bright with an infinite Number of Fires, close to one another, and but a little distant from you; so that tho' you should lose the Light of your own particular Sun, yet there would still remain visible Suns enough beside your own, to make your Night as light as Day, at least, the difference would hardly be perceiv'd, for the Truth is, you would never have any Night at all: The Inhabitants of these Worlds accustom'd to perpetual Brightness, would be strangely astonish'd, if they should be told that there are a miserable sort of People, who where they live, have very dark Nights, and when 'tis Day with them, they never see more than one Sun, certainly they would think Nature had very little kindness for us, and would tremble with Horrour, to think what a sad Condition we are in.

I do not ask you, *said the Countess*, whether in those Worlds of the Milky way, there be any Moons; I see they would be of no use to those principal Planets which have no Night, and move

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in ſpaces too ſtrait and narrow to cumber themſelves with the baggage of inferiour Planets: Yet pray take notice, that by your liberal Multiplication of Worlds, you have ſtarted an Objection, not eaſily anſwered: The Vortex's whoſe Suns we ſee, touch the Vortex in which we are, and if it be true, that Vortex's are round, how then can ſo many Bowls or Globes all touch one ſingle one? I would fain imagine how this may be done, but cannot think which way.

You ſhew a great deal of Wit, Madam, *ſaid I*, in raiſing this doubt, and likewiſe in not being able to reſolve it; for in it ſelf the thing is extreme difficult, and in the manner you conceive it, no anſwer can be given to it; and he muſt be a Fool who goes about to find Anſwers to Objections which are unanſwerable. If our Vortex had the form of a Die, it would have ſix ſquares or flat Faces, and would be far from being round, and upon every of theſe Squares, might be plac'd a Vortex of the ſame Figure, but if inſtead of theſe ſix Square Faces,

it

it had twenty, fifty, or a thouſand; then might a thouſand Vortex's be plac'd upon it, one upon every flat; and you know very well, that the more flat Faces any Body hath on its outſide, the nearer it approacheth to roundneſs, juſt as a Diamond cut facet-wiſe on every ſide, if the Facets be very many and little, it will look as round as a Pearl of the ſame bigneſs: 'Tis in this manner that the Vortex's are round; they have an infinite number of Facets on their outſide, and every one of 'em hath upon it another Vortex; theſe Faces are not all equal and alike; but here, ſome are greater, and there, ſome leſs; The leaſt facets of our Vortex, for Example, anſwer to the Milky way, and ſuſtain all thoſe little Worlds. When two Vortex's are ſupported by the two next flats on which they ſtand, if they leave beneath any void ſpace between them, as it muſt often happen, Nature, who is an excellent Huſwife, and ſuffers nothing to be uſeleſs, preſently fills up this void ſpace with a little Vortex or two, perhaps

haps with a thouſand, which never incommode the others, and become one, two, or a thouſand Worlds more; ſo that there may be many more Worlds than our Vortex hath flat Faces to bear 'em: I will lay a good Wager, that tho' theſe little Worlds were made only to be thrown into the Corners of the Univerſe, which otherwiſe would have been void and uſeleſs; and tho' they are unknown to other Worlds which they touch, yet they are well ſatisfy'd with their being where they are: Theſe are the little Worlds, whoſe Suns are not to be diſcover'd but with a Telleſcope, and whoſe number is prodigious to conclude, all theſe Vortex's are join'd to one another in ſo admirable a manner, that every one turns round about his Sun, without changing Place; every one hath ſuch a turn as is moſt eaſie, and agreeable to its own ſituation: they take hold of one another, like the Wheels of a Watch, and mutually help one anothers motion: And yet 'tis true, that they act contrary to one another.

Every

Every World, as ſome ſay, is like a Foot-ball, made of a Bladder, cover'd with Leather, which ſometimes ſwells of its own accord, and would extend it ſelf, if it were not hindred. But this ſwelling World being preſs'd by the next to it, returns to its firſt Figure; then ſwells again, and is again depreſt; and ſome affirm, that the Reaſon why the fix'd Stars give a twinkling and trembling Light, and ſometimes ſeem not to ſhine at all, is becauſe their Vortex's perpetually puſh and preſs our Vortex, and ours again continually repulſeth theirs.

I am in love with theſe Fancies, *ſaid the Counteſs*; I am pleas'd with theſe Foot-balls, which ſwell every Moment, and ſink again, and with theſe Worlds, which are continually ſtriving and puſhing one another: But above all, I am pleas'd to ſee how this juſtling keeps up the Trade of Light, which is certainly the only Correſpondence that is between them.

No, no, Madam, *ſaid I*; Light is not their ſole Commerce; the Neighbouring Worlds ſometimes ſend Viſits to us, and that in a very magnificent and ſplendid manner: There come Comets to us from thence, adorn'd with bright ſhining Hair, Venerable Beards, or Majeſtick Tails; theſe, *ſaid the Counteſs* are Embaſſadors, whoſe Viſits may be well ſpared, ſince they ſerve only to affright us. They ſcare only Children, *ſaid I*, with their extraordinary train; but indeed, the Number of ſuch Children is now a days very great. Comets are nothing but Planets, which belong to a Neighbouring Vortex, they move towards the out-ſide of it; but perhaps this Vortex being differently preſs'd by thoſe Vortex's which encompaſs it, it is rounder above than it is below, and it is the lower Part that is ſtill towards us. Theſe Planets which have begun to move in a Circle above, are not aware that below their Vortex will fail 'em, becauſe it is as it were broken. Therefore to continue the Circular Motion it is neceſſary that

that they enter into another Vortex, which we will ſuppoſe is ours, and that they cut through the outſides of it. They appear to us very high, and are much higher than *Saturn*, and according to our Syſtem, it is abſolutely neceſſary they ſhould be ſo high, for Reaſons that ſignifie nothing to our preſent Subject. From *Saturn* downwards to the outſides of our Vortex, there is a great void ſpace without any Planets. Our Adverſaries often ask us, to what purpoſe this void ſpace ſerves? but let them not trouble themſelves any more, I have found an uſe for it. 'Tis the Apartment of thoſe ſtrange Planets, which come into our World.

I underſtand you, *ſays ſhe*, we do not ſuffer them to come into the Heart of our Vortex, among our own Planets, but we receive them as the *Grand Signior* doth the Embaſſadours that are ſent to him; he will not ſhew them ſo much reſpect as to let 'em lodge in *Conſtantinople*, but Quarters 'em in one of the Suburbs of the City: Madam, *ſaid I*,

we, and the *Ottomans* agree likewiſe in this, that as we receive Embaſſadours, but never ſend any, ſo we never ſend any of our Planets into the Worlds that are next us.

By this, *ſays ſhe*, it appears that we are very proud, however, I do not yet very well know what I am to believe. Theſe foreign Planets with their Tails and their Beards have a terrible Countenance, it may be they are ſent to affront us; but ours that are of another make, if they ſhould get into other Worlds, are not ſo proper to make People afraid.

Their Beards and their Tails, Madam, *ſaid I*, are not real, they are *Phœnomena*, and but meer Appearances. Theſe foreign Planets differ in nothing from ours, but entring into our Vortex, they ſeem to us to have Tails or Beards, by a certain ſort of Illumination which they receive from the Sun, and which hath not been yet well explain'd. But certain it is, that 'tis but a kind of Illumination, and when I am able I will tell

tell you how 'tis done. I wiſh then, *ſays ſhe*, that our *Saturn* would go take a Tail and a Beard in another Vortex, and affright all the Inhabitants of it. That done, I would have him come back again, leaving his terrible Accoutrements behind him, and taking his uſual place amongſt onr other Planets, fall to his ordinary buſineſs. 'Tis better for him, *ſaid I*, not to go out of our Vortex. I have told you how rude and violent the Shock is, when two Vortex's juſtle one another, a poor Planet muſt needs be terribly ſhaken, and its Inhabitants in no better condition. We think our ſelves very unhappy when a Comet appears, but 'tis the Comet that is in an ill caſe. I do not believe that, *ſays ſhe*, it brings all its Inhabitants with it in very good Health; there can be nothing ſo diverting as to change Vortex's. We that never go out of our own, lead but a dull Life; if the Inhabitants of a Comet had but the wit to foreſee the time when they are to come into our World, they that had already made the Voyage,

would tell their Neighbours beforehand what they would ſee, they would tell them, that they would diſcover a Planet with a great Ring about it, meaning our *Saturn*, they would alſo ſay, you ſhall ſee another Planet which hath four little ones to wait on it; and perhaps ſome of them, reſolv'd to obſerve the very Moment of their entring into our World, would preſently cry out, *A new Sun, a new Sun*, as Sailors uſe to cry, *Land, Land.*

You have no reaſon then, *ſaid I*, to pity the Inhabitants of a Comet, yet I ſuppoſe you will think their Condition lamentable, who inhabit a Vortex whoſe Sun comes in time to be quite extinguiſhed, and conſequently live in Eternal Night, How, *cry'd the Counteſs*, can Suns be put out? Yes, without doubt, *ſaid I*, for People ſome thouſand years ago ſaw fix'd Stars in the Sky, which are now no more to be ſeen; theſe were Suns which have loſt their Light, and certainly there muſt be ſtrange Deſolation in their Vortex's, and a general Mortality

lity over all the Planets, for what can People do without a Sun? This is a diſmal Fancy, *ſaid the Counteſs*, I would not if I could help it, let it come into my Head, I will tell you if you pleaſe, *I reply'd*, what in this particular is the Opinion of Learned Aſtronomers. They think that the fix'd Stars which have diſappear'd, are not quite extinguiſh'd, but that they are half Suns, that is, they have one half Dark, and the other half Light, and turning round upon their own Axis or Centre, they ſometimes ſhew us their Light ſide, and afterwards turning to us their Dark ſide, we ſee them no more. To oblige you Madam, I will be of this Opinion, becauſe it is not ſo harſh as the other, but I cannot make it good, but in relation to ſome certain Stars, becauſe as ſome have lately obſerved, thoſe Stars have their Regulated times of appearing, and diſappearing, otherwiſe there could be no ſuch thing as half Suns. But what ſhall we ſay of Stars, which totally diſappear, and never ſhew themſelves again after they have

finiſh'd their Courſe of turning round upon their own Axis? you are too juſt, Madam, to oblige me to believe that ſuch Stars are half Suns. However, I will try once more what I can do in favour of your Opinion; the Suns are not extinct, they are only ſunk ſo low into the immenſe depth of Heaven, that we cannot poſſibly ſee them, in this Caſe the Vortex follows his Sun and all's well again. 'Tis true, that the greateſt part of the fix'd Stars have not this motion, by which they remove themſelves ſo far from us, becauſe at other times they might return again nearer to us, and we ſhould ſee them ſometimes greater, and ſometimes leſs, which never happens. But we will ſuppoſe that none but the Little, Light, and moſt Active Vortex's which ſlip between the others make certain Voyages, after which they return again, while the main Body of Vortex's remain unmov'd. 'Tis likewiſe very ſtrange that ſome fix'd Stars ſhew themſelves to us, ſpending a great deal of time in appearing, and diſappearing, and at laſt, totally

totally and entirely diſappear. Half Suns would appear again at their ſet and regulated time. Now, Madam, boldly declare your Opinion: Muſt not theſe Stars of neceſſity be Suns which are ſo much darkned, as not to be viſible to us, yet afterwards ſhine again, and at laſt are wholly extinct? How can a Sun, *ſaid the Counteſs*, be darkned, and quite extinguiſh'd, when it is in its own Nature a Fountain of Light? It may be done Madam, *ſaid I*, with all the eaſe in the World, if *Diſcartes*'s Opinion be true, that our Sun hath Spots; now whether theſe Spots be Scum or thick Miſts, or what you pleaſe, they may thicken and unite, till at laſt they cover the Sun with a Cruſt, which daily grows thicker, and then farewel Sun. We have hitherto ſcap'd pretty well; but 'tis ſaid, that the Sun for ſome whole years together hath look'd very pale; for Example, the year after *Cæſar*'s death; it was this Cruſt that then began to grow, but the force of the Sun broke and diſſipated it; had it continued, we had been all loſt People. You

make me tremble, *reply'd the Counteſs*; and now I know the fatal conſequences of the Sun's paleneſs, I believe, inſtead of going every Morning to my Glaſs, to ſee how I look, I ſhall caſt my Eyes up to Heaven, to ſee whether or no the Sun looks pale. Oh, Madam, *ſaid I*, there is a great deal of time required to ruine a World. Grant it, *ſaid ſhe*, yet 'tis but time that is required. I confeſs it, *ſaid I*; all this immenſe maſs of Matter that compoſes the Univerſe, is in perpetual motion, no part of it excepted; and ſince every part is moved, you may be ſure that changes muſt happen ſooner or later; but ſtill in times proportioned to the Effect. The Ancients were pleaſant Gentlemen, to imagine that the celeſtial Bodies were in their own nature unchangeable, becauſe they obſerved no change in them; but they did not live long enough to confirm their Opinion by their own Experience; they were Boys in compariſon of us. Give me leave, Madam, to explain my ſelf by an Allegory: If Roſes, which laſt but a day,

could

could write Hiſtories, and leave Memoirs one to another; and if the firſt Roſe ſhould draw an exact Picture of their Gardiner, and after fifteen thouſand Roſe-Ages, it ſhould be left to other Roſes, and ſo left ſtill to thoſe that ſhould ſucceed, without any change in it; ſhould the Roſes hereupon ſay, we have every day ſeen the ſame Gardiner, and in the memory of Roſes, none ever ſaw any Gardiner but this; he is ſtill the ſame he was, and therefore certainly he will die, as we do; for there is no change at all in him. Would not theſe Roſes, Madam, talk very fooliſhly? and yet there would be more reaſon in their diſcourſe, than there was in what the Ancients ſaid concerning celeſtial Bodies; and though even to this very day there ſhould appear no viſible change in the Heavens, and the matter of which they are made, ſhould have all the ſigns of an eternal duration without any change; yet I would not believe 'em unchangeable, till I had the experience of many more Ages. Ought we, who laſt but a moment,

moment, make our continuance the meaſure of any other things duration; 'tis not ſo eaſie a matter to be eternal. To have laſted many Ages of Men, one after another, is no ſign of Immortality. Truly, *ſays the Counteſs*, I find the Worlds are far from being able to pretend to it; I will not do 'em ſo much honour, as to compare 'em to the Gardiner that lived ſo much longer than the Roſes: I begin to think 'em like the Roſes themſelves, which blow one day, and die the next: For now I underſtand, that if old Stars diſappear, new ones will come in their room, becauſe every ſpecies muſt preſerve it ſelf. No ſpecies, Madam, *ſaid I*, can totally periſh; ſome perhaps will tell you, that ſuch new Stars are Suns, which return to our ſight again, after they have been a long time hid from us, in the profundity of Heaven: Others may tell you, they are Suns cleared from that thick Cruſt, which once covered them: If I ſhould think all this poſſible, yet I likewiſe believe that the Univerſe may be framed in ſuch a manner,

ner, that from time to time it may produce new Suns; why may not that matter which is proper to make a Sun, be diſpers'd here and there, and gather it ſelf again at long run, into one certain place, and lay the foundation of a new World? I am very much inclin'd to believe ſuch new Productions, becauſe they ſuit with that glorious and admirable Idea which I have of the works of Nature. Can we think that wiſe Nature knows no more than the ſecret of making Herbs and Plants live and die by a continual Revolution? I am verily perſwaded, and are not you ſo too, Madam? that Nature, without much coſt or pains can put the ſame ſecret in practice upon the Worlds. I now find, *ſays the Counteſs*, the Worlds, the Heavens, and celeſtial Bodies ſo ſubject to change, that I am come to my ſelf again. To come the better again to our ſelves, *I reply'd*, let us ſay no more of theſe Matters. We are arrived at the very roof and top of all the Heavens; and to tell you whether there be any Stars beyond it, you muſt have an abler

bler Man than I am; you may place Worlds there, or no Worlds, as you pleaſe: 'Tis the Philoſophers Empire to deſcribe thoſe vaſt inviſible Countries, which are, and are not, or are ſuch as he pleaſes to make 'em: It is enough for me, to have carried your mind as far as you can ſee with your Eyes.

Well, *ſays the Counteſs*, I have now in my Head, the Syſtem of the Univerſe: How learned am I become? Indeed, Madam, *ſaid I*, you are pretty knowing, and you are ſo with the advantage of believing, or not believing any thing I have ſaid: For all my pains, I only beg this favour, that when ever you ſee the Sun, the Heaven, or the Stars, you will think of me.

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